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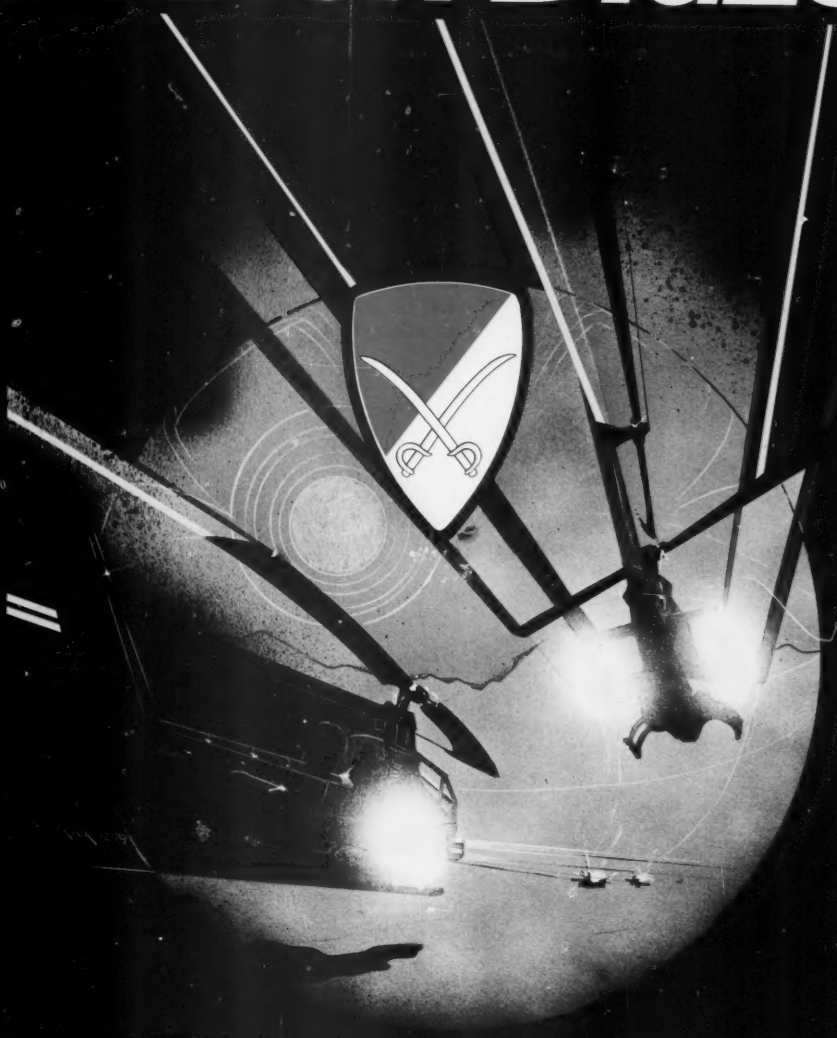
JANUARY 1980

AVIATION DIGEST



6th CAVALRY BRIGADE (AIR COMBAT)

JANUARY 1980 • VOLUME 26 • NUMBER 1

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Cover: **This month's cover salutes the 6th Cavalry Brigade (Air Combat) and aptly depicts its mission—to find and kill enemy armor and mechanized forces. Illustration by LT David Deitrick**

inside cover

Richard K. Tierney
Editor

The mission of the ***U.S. Army Aviation Digest (USPS 415-350)*** is to provide information of an operational, functional nature concerning safety and aircraft accident prevention, training, maintenance, operations, research and development, aviation medicine and other related data.

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7th SQUADRON/17th CAVALRY

HEAVY CAV

4th SQUADRON/9th CAVALRY

REAL CAV

"Yesterday, Today, and Tomorrow"

34th SUPPORT BATTALION

STUD CAV

55th SIGNAL COMPANY

DOUBLE NICKLE

1st SQUADRON/6th CAVALRY

FIGHTING CAV

BLACKHORSE

6th CAVALRY BRIGADE (AIR COMBAT)

Oriented in the attack, the 6th Cavalry Brigade provides the corps commander a decisive element to assure a successful defense

Colonel Robert F. Molinelli
and
Captain Michael F. Russell

THE 6TH CAVALRY Brigade (Air Combat) traces its roots to the spring of 1942, and the activation of the 6th Tank Group, at Camp Bowie, TX. Redesignated the 6th Armored Group, the unit fought through Normandy, Northern France and Central Europe during World War II. It was inactivated in 1952, and rested its colors for 23 years. The 6th Group's courageous fighting spirit was destined to arise again on 21 February 1975, at Ft. Hood, TX, in the form of the largest, most mobile and effective armor killing unit in the free world.

Now, 4 years old, after redesignation from the 6th Air Cavalry Combat Brigade, which existed from May 1971 through February 1975, the 6th Cavalry Brigade (Air Combat) is equipped, manned and trained to *find and kill armor and mechanized forces by aerial means in coordination with the combined arms team.*

A major event in the evolution of this unique organization was the appointment of the Army Tactical Mobility Requirements Board (Howze) in 1962. Objectives of the Board? Simple! Evaluate

continued on page 8

HEAVY CAV

7th SQUADRON/17th CAVALRY

Attack helicopters capitalize on the element of surprise. Using natural cover and concealment and standoff techniques, they ambush the enemy and retain the initiative by ALWAYS ATTACKING, ATTACKING, ATTACKING.... Anonymous

Lieutenant Colonel E. W. "Bill" Cavanaugh Jr.
and
Captain David M. "Mike" Burnett

ONE OF THE MOST unique aviation units in today's Army, the 7th Squadron (Attack Helicopter), 17th Cavalry—or Heavy Cav—as it is known in the Blackhorse Brigade, provides the majority of antitank punch available in the 6th Cavalry Brigade (Air Combat). The squadron has 3 attack troops, each with 12 OH-58 Kiowa scouts and 21 AH-1S Cobras (figure 1).

With the organic troop aviation unit maintenance and the 34th Support Battalion's aviation intermediate maintenance, each troop can field 3 platoons of 3 scouts and 5 Cobras (3:5 team mix) on a sustained basis with occasional surges up to the maximum number of 63 Cobras (504 TOWs) within the Heavy Cav. The troop or squadron can maintain continuous contact with the enemy using the one-third option (one team/troop in contact, one team/troop en route to or from contact, and one team/troop rearming and refueling).

The squadron's internal support for the three

continued on page 11

REAL CAV

4th SQUADRON/9th CAVALRY

"The 4th Squadron (AIR), 9th Cavalry, Real Cav has done its part as the eyes and ears of the 6th Cavalry Brigade (Air Combat)—the largest, most mobile and . . ."

Lieutenant Colonel Kenneth E. Kimes
and
Captain Ralph S. Reed

THE 6TH CAVALRY Brigade (Air Combat) has one air cavalry squadron, the 4th Squadron (AIR), 9th Cavalry, known in the brigade as the Real Cav Squadron. It provides the traditional cavalry capabilities of reconnaissance, security and economy of force. Its mission and organization are shown in the figure on page 14.

Each air cavalry troop is authorized 8 UH-1 Huey; 9 AH-1S Cobra; and 10 OH-58 Kiowa aircraft. Each also is authorized 40 Soldiers in a ground reconnaissance platoon which conducts patrols, sets up ambushes or maintains observation posts. The ground platoon is equipped with nine motorcycles to extend its mobility on the battlefield. Specially designed racks are mounted on the platoon's UH-1s for rapid transport of the scouts' motorcycles to the area of operation.

The air cavalry squadron is a combat maneuver unit suited for an environment in which time is critical or the mobility of the ground forces is restricted by terrain. In the offense the squadron can destroy enemy forces; secure key terrain (by observation or fire only); deprive the enemy of resources; demoralize, deceive and divert the enemy; and develop intelligence.

In defensive operations the squadron can control, preserve or protect terrain, installations,

continued on page 14

STUD CAV

34th SUPPORT BATTALION

To provide forward support for the combat forces in battle is by far the most important undertaking within the support battalion. All other elements within the support battalion exist to make it happen—*FM 54-2.*

Lieutenant Colonel James E. Gauze
and
Captain Andrew M. Pekema

IT STANDS TO REASON that the Army's only separate Cavalry Brigade (Air Combat) has the Army's most unique support battalion. The 34th Support Battalion, Stud Cav, derives its nickname from Webster's *New Collegiate Dictionary* which states in part, "... any of various infixed pieces projecting from a machine and serving chiefly as a support or axis."

The Stud Cav is in reality a mini-DISCOM with one very distinct advantage over most conventional support commands: An organic assault support helicopter company comprised of 16 CH-47C Chinook helicopters (figures 1 and 2).

The mission of the 34th Support Battalion is to provide brigade-level combat service support (except construction, COMSEC logistics and water supply) to all organic and attached elements of the brigade.

The organization and mission are traceable to the concepts partially tried and proven in Vietnam; philosophically and physically generated in the formation of the TRICAP Divison at Ft. Hood, TX; and finally, accepted in the authorization and formation of the Air Cavalry Combat Brigade, now the 6th Cavalry Brigade (Air Combat). The 34th Support Battalion embraces basic established logistical support doctrine in organization,

continued on page 16

DOUBLE NICKLE

55th SIGNAL COMPANY

Captain Bobby L. Brown
and
Lieutenant Carlos Martoral

THIS COMPANY was constituted into the United States Army on 26 November 1943 as the 55th Signal Repair Company and activated at Camp Cooke, CA on 20 December 1943. It was inactivated in April 1946 at Oahu, HI, but activated again on 18 October 1950 during the early stages of the Korea War in Puson, Korea. The 55th distinguished itself during the Korean War for its participation as part of the United Nation's Offensive, the Chinese Communist Forces Intervention and the First U.N. Counter-offensive.

The unit again was inactivated and redesignated as the 55th Signal Company on 14 January 1957 at Yokohama, Japan. Later that same year the company was reactivated and returned to Korea where it continued its outstanding communication operations until 25 April 1960, when it was inactivated. The 55th again was activated on 1 July 1965 at Korat, Thailand during the Vietnam War for three years and inactivated once more in 1969. The 55th Signal Company or Double Nickle made its present home at Fort Hood, TX when it was reactivated on 21 February 1975 and has since been a proud member of the 6th Cavalry Brigade (Air Combat).

The mission of the 55th is to install, operate and maintain internal communication facilities for the brigade headquarters and the support battalion headquarters and multichannel communication systems to the subordinate squadrons. Then it also provides communications security and direct support for all of the brigade's units.

The company is authorized 98 Soldiers including 3 officers; 1 warrant officer; and 94 enlisted. It consists of three platoons:

- *Headquarters platoon with 22 authorized,* provides command and control and performs essential support functions consisting of a supply section; a motor and generator maintenance section; a cryptographic maintenance direct support agency which provides direct support logistics functions such as acquisition, distribution, accounting, inventory control and maintenance support of cryptographic equipment; and an air weather support section which when augmented by Air Force personnel provides aviation weather forecasts and briefings.
- *A command operations platoon* with 50 people provides the brigade headquarters with: a manual telephone central office switchboard (AN/MTC-10); communication center and message center facilities (AN/MGC-17); multichannel terminals (AN/MRC-127); FM, AM/SSB and radio teletype communication facilities (AN/VRC-46, AN/GRC-106, AN/GRC-142); radio wire integration (AN/GSA-7); and a radio retransmission capability (AN/VRC-49).
- *The support operations platoon* has 26 people who provide the support battalion with: a manual telephone central office switchboard (AN/TTC-

29); a secure teletype and message center facility (AN/MGC-34); a communications center; radio teletype communications (AN/GRC-142); and an internal FM radio section (AN/VRC-46).

The communication system consists of:

- FM radio nets—the primary means of command and control—and includes a command net, an intelligence net, an administration/logistics net and a fire support net.
- Radio teletype nets which are the primary means of record communications between subordinate units and brigade headquarters—including an operations/intelligence net and an administration/logistics net.
- Multichannel communications which provides point to point and common user telephone circuits to subordinate squadrons and also a means for a common user teletype circuit between brigade headquarters and the brigade support battalion.
- A communication center system affording a common user secure teletype between main and trains to provide record (hard copy) communications link.
- External communications are provided by the 3rd Signal Brigade only when mission accomplishment for the Blackhorse Brigade may be hindered due to equipment being in organizational or direct support maintenance.

Like every other signal unit in the Army the Double Nickle has its problems with communications. One is that the company is not organized to have a relay capability for multichannel systems and the other is that there is no back-up teletype or radio teletype equipment authorized. But, these problems do not stop the Double Nickle from accomplishing the mission. We pride ourselves because somewhere, somehow and someway we get our job done. There are times when we consider ourselves a "Special Forces unit"—which we are in a way because we belong to the only air cavalry brigade in the Army. The Double Nickle is small, yet performs many of the missions of a battalion-sized unit. We are considered by many of our Signal colleagues in the Army to be one of the best. We are proud of this reputation in the 55th Signal Company—Double Nickle!

About The Authors

CPT Brown assumed command of the 55th Signal Company in August 1978. He was graduated from Texas A&M University in 1974 with a degree in engineering technology. Prior to serving a tour in Korea, CPT Brown attended the Signal Officer Basic Course and the Rotary Wing Aviator Course. He served as communications-electronics officer in a combat aviation battalion and attack helicopter squadron before assuming responsibility for the 55th.

LT Martoral is a communications platoon leader with the 6th Cavalry Brigade at Ft. Hood, TX. He was commissioned by the Reserve Officer's Training Corps on 11 February 1977. LT Martoral has completed the Signal Officer Basic Course at Ft. Gordon, GA and holds a bachelor's degree (English) from the University of Puerto Rico.

GLOSSARY

ACCB	air cavalry combat brigade
ADA	air defense artillery
AM	amplitude modulated
ASP	ammunition supply point
BMMC	brigade materiel management center
BSA	base support area
CBAC	cavalry brigade air combat
Class I	sustenance
Class II	clothing
Class III	POL
Class III A	package POL products (aviation related)
Class IV	construction
Class V	ammunition
Class VII	major end items
C&GSC	Command and General Staff College
COMSEC	communications security
CONUS	Continental United States
COSCOM	corps support command
DISCOM	division support command
DS	direct support
FARE	forward area refueling equipment
FARPs	forward arming and refueling points
FEBA	forward edge of the battle area
FM	frequency modulated
FSA	forward support area
GS	general support
HHC	headquarters and headquarters company
JAAT	joint air attack team
km	kilometer
MAAG	Military Assistance Advisory Group
MBA	main battle area
mm	millimeter
NATO	North Atlantic Treaty Organization
NOE	nap-of-the-earth
NORTHAG	Northern Army Group
ODCSOPS	Office, Deputy Chief of Staff for Operations and Plans
OPLAN	operations plan
POL	petroleum, oils and lubricants
RP	reporting point
SPOE	Security Plans and Operations Element
SSB	single side band
TAA	tactical assembly area
TOC	tactical operations center
TOE	table of organization and equipment
TOW	tube-launched, optically-tracked, wire-guided
TRICAP	triple capability

BLACKHORSE
6th CAVALRY BRIGADE

continued from page 2

the potential of Army Aviation. Military leaders had recognized the worth of helicopters for purposes other than aeromedical evacuation.

Named after its chairman, General Hamilton H. Howze, the Howze Board opened up new frontiers for Army aviation. Through interviews with aviators and ground personnel, testing of armed helicopter platoons in Vietnam and countless discussions with those who had opportunities to fly the Army's gun platforms, it was agreed that the Army needed to pursue development of armed helicopter systems and tactics.

The Howze Board evaluation produced a recommendation that a separate air cavalry combat brigade be formed. However, the idea temporarily was shelved because of resource constraints.

The next major milestone occurred when the First Cavalry Division returned from Vietnam. It was tasked to test the TRICAP concept of three combat brigades. One of those brigades was the air cavalry combat brigade (ACCB). From 1971 until 1975 it was used in extensive tests which resulted in modern equipment and new doctrine for Army aviation. The mobility and firepower which accompanied the ACCB was alone justification for the unit's retention as a member of the combined arms team.

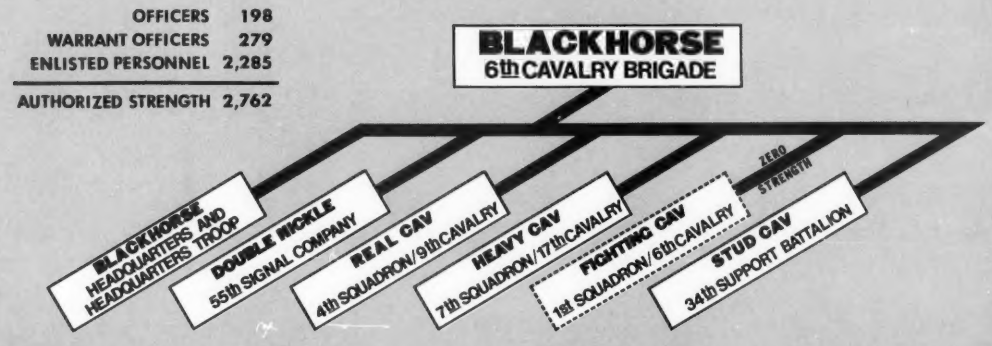
Accordingly, the 6th Armored Group was reconstituted on 21 February 1975, as the 6th Cavalry Brigade (Air Combat), at Ft. Hood. The ACCB was gone. But, the spirit of the Cavalry was to continue with this new, separate brigade. The recommendations of the Howze Board more than a decade earlier had become a reality. Today, the 6th Cavalry Brigade includes a Headquarters and Headquarters Troop (Blackhorse); the 55th Signal Company (Double Nickle); the 34th Support Battalion (Stud Cav); the 7th Squadron, 17th Cavalry (Heavy Cav); the 4th Squadron, 9th Cavalry (Real Cav); and finally the 1st Squadron, 6th Cavalry (Fighting Cav). Both the Heavy Cav and the Fighting Cavalry are attack helicopter battalions. Currently, the 1st Squadron, 6th Cavalry is at zero strength, but its mission, organization and equipment are identical to that of the 17th Cavalry.

Each of the attack squadrons consists of 3 attack troops and each attack troop is comprised of a scout platoon with 12 OH-58 Kiowa helicopters and 3 attack platoons of 7 AH-1 Cobra helicopters. The 4th Squadron, 9th Cavalry is the brigade's air cavalry squadron. Somewhat modified, it does not have a ground troop as does the conventional air cavalry squadron. It is organized with 3 air cavalry troops, each having an aeroscout platoon with 10 OH-58s, an attack platoon with 9 AH-1s and a reconnaissance platoon which can be flown to their area of operation by 8 UH-1s in each troop. Its Bravo Troop currently is at zero strength due to resource constraints.

The 34th Support Battalion, with all of its unique logistical and maintenance support capabilities, is a mini DISCOM and is the largest of the battalion-sized units in the brigade. The details of organization and capabilities for each battalion-sized unit are explained in other articles in this issue.

The 55th Signal Company provides a complete network of communications throughout the brigade. Its equipment includes radio teletypewriters and multichannel communications links (see article beginning on page 6).

A unique organization such as the 6th Cavalry Brigade obviously has an unusual mission statement. Therefore, it is the only brigade-sized unit in the Army that is directed *"To locate, disrupt*



and destroy enemy forces, predominately armored and mechanized by aerial combat power, in coordination with other combined arms, as a member of the combined arms team."

A mission statement and an organization do not constitute combat power. Proper training and coordination must be at a peak for the unit to be ready—ready for emergency deployment on short notice. That deployment could be to any location in the world. Although preparation for all environments is a necessity, the Blackhorse Brigade has concentrated its attention on the mid-intensity type of warfare expected on the European battlefield. Several tests and evaluations have been conducted at Ft. Hood and elsewhere that lend credence to helicopter survivability. Tactics and techniques that have proven successful have been adopted by the brigade and form the basis for current Army doctrine.

During the last 4 years, units of the Blackhorse Brigade have practiced, with precise timing, loading in preparation for movement to distant lands. The practices are called emergency deployment readiness exercises. Each exercise is a complex test with one final question: Is the unit *ready* for emergency deployment on short notice?

All tests have relfected that the 6th Cavalry Brigade is capable of meeting its deployment goals. All organic units can move on short notice, set up and become fully operational within a short time. During Reforger 76, Troop C, 7th Squadron, 17th Cavalry moved TOE equipment and personnel by ship and by air to Germany. It conducted tactical operations while attached to the 101st Airborne Division (Air Assault).

To illustrate the brigade's deployment and operational capabilities, consider the following scenario:

The Blackhorse Brigade has completed its deployment to Europe along with III Corps. The scene opens in the summer after much political turmoil and tension between NATO and the Warsaw Pact forces.

Warsaw Pact launches a nonnuclear attack into the Federal Republic of Germany. The expansion of the enemy is detected in sufficient time to allow the 6th Cavalry Brigade to deploy to a forward assembly area prior to the attack.

Enemy elements gain much territory. However, NATO forces are able to maintain an acceptable defense. Friendly intelligence sources determine that the main thrust of the enemy attack will be in a sector where a high casualty rate already has been realized. III Corps is directed to assume responsibility for this battle-ridden area.

Taking up positions along the FEBA, III Corps enters into a defensive posture. The mission given the 6th Cavalry Brigade is corps reserve. The brigade support area has been selected 200 kilometers behind the FEBA and the squadrons deploy about 100 kilometers behind the FEBA. Such a distance might appear to be too great for any reserve force to react in sufficient time. However, this remoteness is not a disability because of the built-in mobility within the brigade. This distance can only aid in the brigade's security, and at the same time provide a centralized emplacement from which to react quickly to attacks anywhere in the corps sector.

The brigade as a combat maneuver unit is suitable for employment where time is critical and ground forces are restricted by terrain trafficability. It can maneuver farther, faster and place more armor-defeating firepower in a given area than any other like-sized unit in the United States Army. With such a trait, the 6th Cavalry Brigade can provide any Army commander a fast-moving armor-defeating force on a short notice.

As the enemy attack continues, the corps commander decides the main thrust of the enemy is along a divisional boundary. To conserve his ground combat maneuver elements, the corps commander contacts the 6th Cavalry Brigade commander: "Support the defenses of the 2d Armored Division. Commit your forces in this threatened area," is his message.

The 4th Squadron, 9th Cavalry is committed. The troops quickly aid in establishment of a screen along the division's flank.

While the enemy's troops come into initial contact with the division's forward defenses, the 4/9th Cav assists the division in locating and attriting the enemy. During this same time, the 4/9th is able to precisely determine the width of the penetration. As the battle continues, it becomes evident that greater armor-defeating firepower is needed. This information is relayed to the brigade commander who commits one of the brigade's attack helicopter squadrons—the 7th Squadron, 17th Cavalry.

Aided by scouts from the 4/9th Cav, elements of the 7/17th Cav quickly move forward, using NOE flying techniques and pre-planned routes. Blocking positions are occupied by attack helicopters while the scouts establish alternate blocking and attack positions.

As the penetration gains momentum, the brigade commander orders the 4/9th and 7/17th to conduct a coordinated attack to curb the enemy's threat.

A coordinated attack normally is accomplished by using 75 percent of the available attack heli-

copters, which puts on station 11 Cobras which can place 480 TOW missiles on targets. If the situation becomes such that the brigade commander wants to surge the brigade, he can by committing 81 Cobras (63 from the 7/17 and 18 from the 4/9) with 648 TOW missiles.

The combined attacks of multiple attack helicopters at ranges from 2,500 to 3,750 meters confuse the enemy. Enemy air defense weapons have been degraded by multiple employment as well as through the use of NOE flying techniques.

The enemy's efforts have been exhausted and the penetration is halted. The enemy has suffered numerous losses and caused little damage to the friendly defenses. Ground units have attacked and captured lost terrain.

With the situation stabilized, the corps commander returns the brigade to corps reserve. The 6th Cavalry Brigade returns to its tactical assembly area. Upon arrival, the 34th Support Battalion provides the resupply necessary to prepare the brigade for the next battle.

Elsewhere in the Federal Republic of Germany, the enemy attack continues. The III Corps commander is advised that the corps to his southern flank is experiencing heavy enemy pressure and has requested reinforcements. III Corps receives a warning order: "Be prepared to release the 6th Cavalry Brigade as a reinforcement to the Southern Corps within 30 minutes after receipt of this warning order." Liaison is established with the Southern Corps and upon receipt of the execution order, the attack squadrons and the air cavalry squadron depart the assembly area and refuel en route.

From the base support area, one squadron will establish a mobile forward support area within 1 hour and 15 minutes of the movement order. Another squadron will have fuel available and ready for operation within 2 hours. By leap frogging the squadron forward support areas, the brigade can sustain itself during a long-distance move and arrive in a ready-to-fight posture. The brigade has the capability to sustain itself logistically for 72 hours after commitment.

A scenario of this nature clearly portrays the capability of the 6th Cavalry Brigade in a hostile environment against a numerically superior threat force. The brigade can deploy rapidly against the enemy and alter what appears to be an extremely adverse situation. Because it is highly mobile, the brigade can react quickly and relieve the pressure on friendly ground elements. Massing its firepower against an attacking enemy will produce heavy losses and provide a more favorable force ratio for our armor-defending force.

The ease in which the terrain is controlled by massing firepower on enemy targets and then shifting those fires to another location across the battlefield is the key to employment of the brigade.

Oriented in the attack, the 6th Cavalry Brigade provides the corps commander a decisive element to assure a successful defense. Using scenarios similar to the one discussed above, the detailed combat actions of the attack and cavalry squadrons are discussed in articles beginning on pages 3 and 4.

About The Authors

COL Molinelli commanded the 6th Cavalry Brigade when this article was written. He is an Armor Basic Course and Aviation Course graduate. He served with MAAG and later as aide-de-camp to the Chief of the Army Group—Iran. COL Molinelli completed helicopter transition and the Armor Advanced Course after returning to the U.S. He has served two tours in Vietnam; commanded numerous units; was graduated from C&GSC and the War College; and holds a master's degree. Prior to his present assignment, COL Molinelli was Chief of Combat Division, Requirements Directorate, ODCSOPS.

CPT Russell was the Public Affairs Officer of the 6th Cavalry Brigade (Air Combat) when this article was written. He was commissioned a first lieutenant after completing a tour in Vietnam. He is an Armor Advanced Course graduate, holds a bachelor's degree (professional aeronautics), and is a Senior Army Aviator. CPT Russell entered the Army in 1964; since then, he has held a variety of positions including executive officer, company commander and various staff positions.

6th CAVALRY BRIGADE

(AIR COMBAT)

"Yesterday, Today, and Tomorrow"

HEAVY CAV
7th SQUADRON/17th CAVALRY

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line troops and headquarters is provided by a headquarters troop. Each line troop can provide the massed fires of 168 TOW missiles against targets along a front from 10 to 30 kilometers wide and can sustain this firepower with the combat service support of the 34th Support Battalion (Stud Cav).

With the air mobility provided by the Stud Cav's organic CH-47 Chinook aircraft, the Heavy Cav can deploy laterally across the battlefield in excess of 200 kilometers to reinforce ground units, stop an enemy penetration, exploit a friendly breakthrough or strike deep into rear enemy areas. This multirole, helicopter squadron is a valuable asset to the ground commander in any tactical situation anywhere on the battlefield.

To illustrate the deployment and use of attack helicopters on the modern battlefield, a fictional battle situation is portrayed below. The brigade is deployed to Europe (figure 2) before the initiation of hostilities. The 7/17th Cav initially locates in the assigned sector of the major unit assembly area and, before the enemy attack, continues preparation for immediate operations. Upon completion of incountry processing, the squadron moves each troop to tactical assembly

GLOSSARY—Page 7

areas in the vicinity of Hodenhagen. The squadron assumes a reserve mission and continues intensive maintenance on the aircraft and weapons systems. Each troop is in its own village area surrounding Hodenhagen and is further dispersed by separating platoon areas in the forests around their respective villages.

The brigade is given the mission to quickly *reinforce I (Allied) Corps* in the vicinity of Braunschweig. The 4th Squadron (Air), 9th Cavalry (Real Cav) elements conduct a movement to contact to find the enemy and fix the limits of the penetration. Concurrently, Heavy Cav troops relocate to forward assembly areas in the Peine area. Support elements within each troop set up forward arming and refueling points (FARPs) north of Hildesheim. Team leaders for each 3:5 mix from the troop fly directly to the ground commander's location and receive a short but comprehensive briefing on the enemy strength disposition and air defense capabilities, and on friendly unit and supporting ADA vehicles which are moving to the west. The commander is able to maintain radio contact on an alternate frequency that is occasionally free of interference. The Cobras engage the enemy with rockets at ranges up to 5,500 meters to destroy soft targets and to damage radar dishes and radio antennas. The teams move to alternate firing

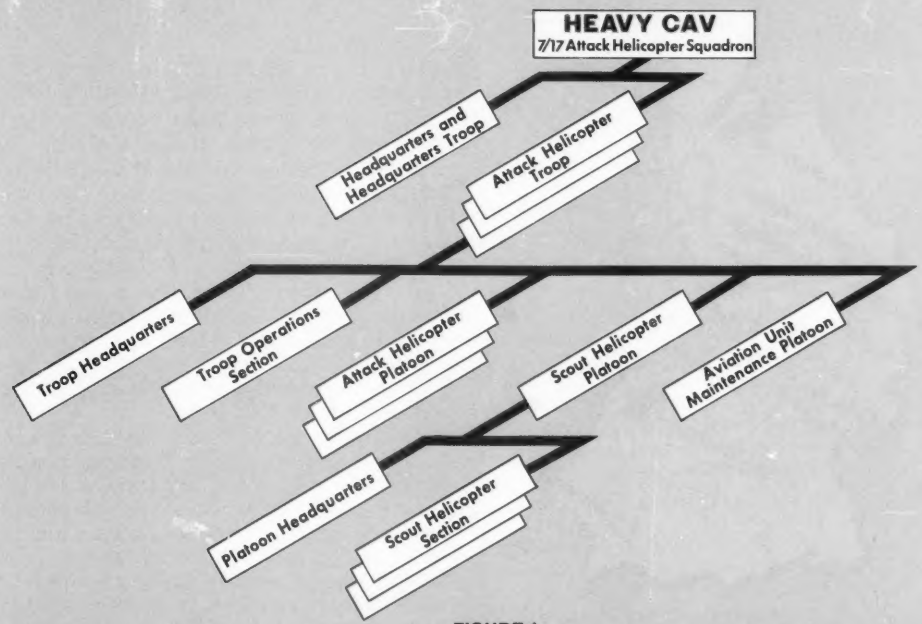


FIGURE 1

positions after each engagement. The aircraft remain exposed for only the absolute minimum amount of time to complete an engagement, remask and move.

The lead Cobra signals the team leader that all Cobras are 50 percent expended and the team leader, after transferring control to that section's scout, returns to the second team assembly area to commit them to the battle.

The second team arrives just as the first is expended and ready to return to the FARP. The Heavy Cav maintains continuous pressure on the enemy penetration in this manner and reduces congestion and waiting time in the FARP. Teams continue attriting and slowing the enemy. After reducing the enemy air defense umbrella and destroying command and control vehicles, the Cobras are able to increase their effectiveness and maximize their kill ratios. The attacking tank forces continue to pour into the penetration area even though they are not gaining ground due to the heavy losses inflicted on them by the attack helicopters.

As the battle continues the 6th Cav Brigade commander receives a mission to protect the Wittingen-Wolfsberg area. To accomplish this, the commander task-organizes one air cavalry troop and one attack troop under the 4/9th Squadron commander. Troop C is withdrawn from the battle area to rearm and refuel in preparation for its attachment to the 4/9th Cavalry Task Force. Alpha and Bravo Troops shift and redistribute the areas of responsibility along the penetration to cover the gap left by the departure of Charlie Troop. Troop C assumes a stand-by posture in the task force, waiting to be committed when the 4/9th Cavalry elements detect an enemy armor assault.

FIGURE 2

The battle in the Braunschweig area continues as the Heavy Cav sustains its continuous pressure on the enemy penetration. Each return trip by the teams finds the FARP a bevy of activity, crowded by CH-47s from the 34th Support Battalion which are delivering JP-4 fuel, 20 mm, rockets and TOW missiles.

As the enemy advance is blunted, and reinforcing friendly ground forces take up positions, the squadron is released from this mission and returns to Hodenhagen, after rearming at Hildesheim. An hour later, the 4/9th Cavalry task force is released from its mission and Charlie Troop returns to the 7/17th Cavalry.

The brigade is soon placed under the operational control of the U.S. V Corps in the Fulda area and prepares to deploy more than 200 kilometers to the south. The Heavy Cav sends liaison personnel forward with the 34th Support Battalion elements to arrange refueling at Fritzlar and an additional element departs for the Lauterbach area, where the squadron sets up its new tactical assembly area.

At the same time, CH-47s from the 34th Support Battalion lift the squadron's FARPs into Schlitz. The brigade liaison team arrives in the Fulda area and is briefed at the V Corps Tactical Operations Center. The Blackhorse Brigade is to be integrated into the defense of the area from Fulda north to Bad Hersfeld on the northern flank of the 3d Armored Division's Combat Aviation Battalion. The V Corps Air Force liaison officer briefs the brigade liaison team on the success of the JAAT operations in the V Corps sector. The liaison team returns to brief the brigade and the squadron commanders and the brigade commander issues a frag order for the conduct of the defensive operation.

Meanwhile, Alpha Troop arrives in the Lauterbach area and immediately disperses into platoon areas northwest of the town. Bravo and Charlie Troops arrive simultaneously and disperse to the west and south. Their commanders and operations officers move to a prebriefed area where the squadron commander and squadron operations officer (after returning from the brigade TOC) give a frag order to the attack troops. The

troop commanders repeat the process and the team leaders rendezvous with their teams in holding areas northwest of Fulda. They give a detailed order outlining the battle plan. Special attention is given to the coordinating instructions, code words and procedures for working with the A-10 airplanes during JAAT operations. The teams move out for their respective sectors along the front stretching from Fulda to Bad Hersfeld.

Immediately upon arrival at the main battle area, the Heavy Cav scouts begin identifying all friendly air defense weapons in their area. These weapons are part of the combined arms team and must be integrated into the defensive plan in conjunction with the maneuver elements. Simultaneously, the Real Cav (4/9th) moves out to find and fix the enemy and to develop the situation. Concurrently, the Heavy Cav comes forward to join the 4/9th.

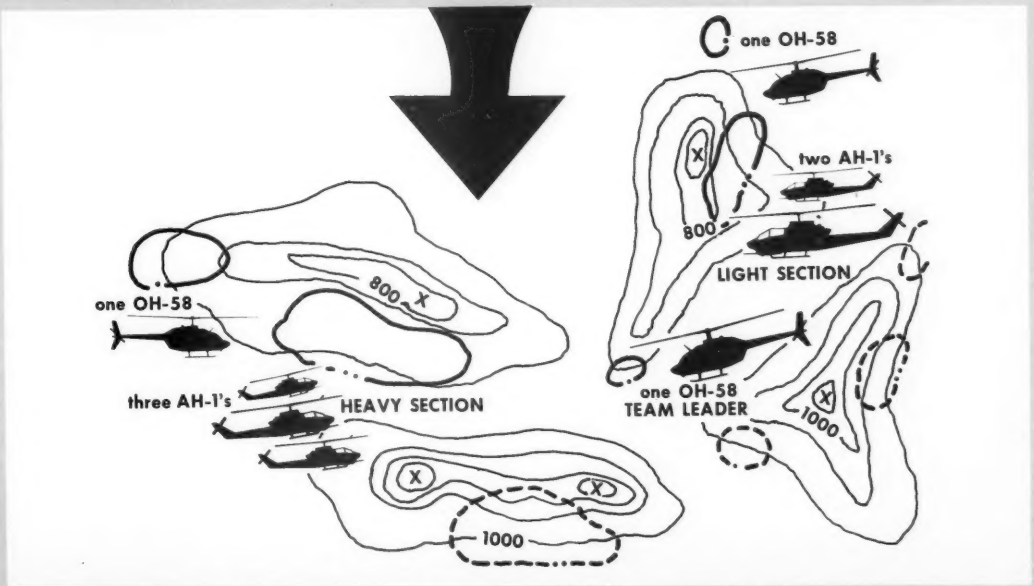
By the time the A-10s call their first RP, all visible air defense threat weapons and many command and control vehicles have been disabled or destroyed and the Cobras are systematically destroying tanks in their sectors. A-10s initiate firing while the Cobras continue their suppressive fires from successive firing positions. Both the A-10s and the Heavy Cav teams continue to rotate into the battle positions, while the Real Cav screens the flanks. The FARP elements have displaced to their new locations and the 34th Support Battalion elements have linked up with COSCOM trains in the Giessen area to resupply the FARPs.

The quick reaction by the brigade in reinforcing the V Corps blunted a major enemy attack. The Air Cavalry has performed its classic mission with increased firepower. The attack helicopter squadron has reinforced two separate armored forces in two rapidly changing situations which required quick, decisive and effective antitank fires more than 200 kilometers apart. The Heavy Cav's highly mobile attack and scout helicopters—complemented by A-10 aircraft and other members of the combined arms team—is the most invincible force on the modern battlefield today, when fully integrated as a maneuver element in the ground commander's scheme of maneuver.

About The Authors

LTC Cavanaugh, a prior enlisted man, commanded the 17th Cavalry when this article was written. He has completed numerous courses, is an OCS graduate, and holds a bachelor's degree in business administration and two masters—one in science and the other in military arts and science. LTC Cavanaugh has served in Vietnam, Dominican Republic, Korea, and CONUS. Prior to assuming command of the 17th, LTC Cavanaugh was Assistant, G-3/DPT Training Division, III Corps and Ft. Hood.

CPT Burnett is the Assistant S-3 (Operations and Training Officer) of the 7th Squadron, 17th Cavalry. He was graduated from Tulane University in 1973. Prior to this assignment, CPT Burnett was assigned to an attack battalion and a cavalry squadron in Germany.



REAL CAV
4th SQUADRON/9th CAVALRY

continued from page 4

forces, facilities or activities essential to the friendly force mission. It also can gain time to permit concentration or movement of forces elsewhere; wear down the enemy as a prelude to attacking; force the enemy to mass and become more vulnerable to attack; or retain tactical, strategic or political objectives.

The squadron can be employed as a combined arms force with elements of armor, mechanized infantry or armor cavalry units under its operational control. Or, it can be under the operational control of a ground maneuver force.

To best explain the air cavalry squadron's capabilities, a series of vignettes are portrayed below. While these scenarios are not based upon actual contingency plans, they do provide a vehicle to present a perspective of how the squadron could be employed under similar circumstances.

The general situation is that the Real Cav Squadron has been deployed to Europe during the enemy buildup prior to hostilities. The squadron assumes a reserve roll and tactically disperses in an area near Hodenhagen.

The attack begins at 0300 hours. By 1200 hours, the NORTHAG commander has determined that the enemy is attempting a breakthrough. The momentum of the attack is such that second echelon armored elements are threatening to rupture the defense.

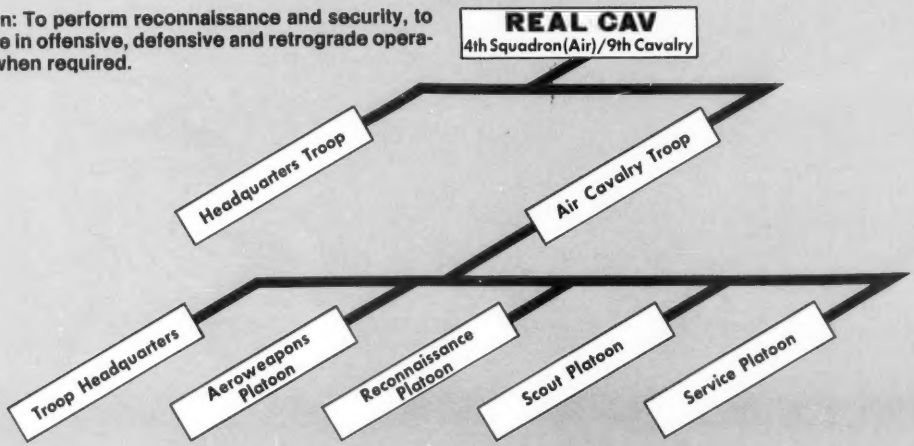
The NORTHAG ground reserve cannot move into battle positions in support of the Allied armored corps until about 1500 hours because of its location. At 1215 hours *the 6th Cavalry Brigade Air Combat (CBAC) is given the mission of reinforcing I (Allied) Corps in the vicinity of Braunschweig.* The brigade commander sends the 4th Squadron, 9th Cavalry forward to locate the limits and flanks of the penetration.

The 4th Squadron, 9th Cavalry deploys scout teams to screen forward of the covering force. When enemy contact is made, the scouts provide early warning and begin engaging the advance enemy elements. By 1245 hours initial intelligence and information from the 4/9th recon elements indicate that two tank divisions are leading the attack. This means that on an 8 to 10 kilometer front there could be as many as 688 enemy tanks in the breakthrough area.

Aeroscouts of the 4/9th direct long-range artillery and tactical air on the enemy. *The 4/9th hands-off the enemy targets to its sister unit,* the 7/17th Attack Helicopter Squadron and to the friendly ground forces. As the 4/9th withdraws through the blocking force it screens gaps in the covering force area or screens the blocking force flanks. The 4/9th maintains contact and reports any attempt to bypass. If a bypass attempt is discovered, the Cobras from the air cav engage the enemy forces to fix them while the scouts call in artillery, direct tactical air support, and guide a heavy attack team to destroy the targets. By continually locating these bypass attempts the enemy can be effectively contained on a narrow front and the attack slowed.

Although enemy tanks continue to come, the defenses have held. At this time, the 6th CBAC

Mission: To perform reconnaissance and security, to engage in offensive, defensive and retrograde operations when required.



receives a frag order to protect a loosely defended area 33 kilometers wide between Wittengen and Wolfsberg. The 6th Brigade commander task-organizes one air cavalry troop and one attack helicopter troop under the command of the 4/9th commander for the mission.

The air cavalry troop, having led the brigade in the surge, had expended its TOW missiles and returned to Hildesheim. There they rearmed with TOWs and 20 mm. A mobile FARP had been set up there with ammunition flown in by the brigade's organic CH-47 Chinook.

The commander of the 4/9th task force orders his command to move to the new sector and assume the protect mission. There they provide the necessary reconnaissance and security. Should the enemy attempt to bypass the strengthened defenses of the North German plains approach, or the Helmstadt-Dortmund approach, and exploit the perceived gap, the 4/9th elements could mass direct and indirect fires and available tactical air on the threat.

The squadron does not have organic indirect fire support assets, but does have a fire support liaison officer to provide interface with supported units. Pilots and observers are well trained in forward observer procedures. This allows any element of the squadron to quickly tie in with supporting artillery units and tactical air, without the attachment of observers. The squadron can respond anywhere in the sector with minimum delay and confusion, while maximizing survivability during target servicing.

The terrain within this 33-kilometer sector is especially varied, offering flat marshlands and wooded rolling hills. Squadron elements can watch the battlefield around the clock. At night the air cav and attack helicopter teams can use night vision goggles and artificial illumination provided by supporting artillery or mortars. If these are not available, they can provide their own illumination firing 2.75 inch flare rockets.

At 1530 hours ground reserves were moved into battle positions reinforcing the I (Allied) Corps. The brigade, as a force multiplier, has succeeded in its reinforcement. At 1630 hours elements of the 3rd Panzer Division move into the sector between Wittengen and Wolfsberg and relieve the 4/9th Task Force. The brigade is again NORTHAG reserve and located near Hodenhagen.

In the 3rd vignette, the 6th Brigade is directed to prepare to move to reinforce the U.S.V. Corps. Throughout the day the major thrust of the Warsaw Pact forces has directed toward the Fulda Gap.

Assuming the time now is 1800 hours, the problems and difficulties of the mission are obvious. The squadron must move in excess of 200 kilometers and effectively engage enemy armored forces—at night.

The brigade is directed to execute. The lead air cav elements of the 4/9th move to Fulda. The time en route is 1 hour, 48 minutes.

As the brigade headquarters moves into its assigned sector and assumes operational control of the remnants of two ground battalions, the air cavalry troops of the 4/9th establish contact with the ground elements and are updated on the tactical situation. Simultaneously, scout elements are identifying the boundaries and establishing contact with adjacent units.

The 4/9th air cav elements develop the situation and identify both the enemy battle dispositions and optimum approaches to the enemy and hand-off targets to the attack helicopter elements as they arrive at the battle area. Throughout the night, the battle is sustained by attacking and continually maneuvering to fire from the best location at maximum range. The synergistic effects of the combined arms attrite the enemy advance, stabilizing the FEBA at 0400 hours.

The Real Cav Squadron has reacted quickly and the V Corps blunts a major enemy attack. The squadron has reinforced two armored forces more than 200 kilometers apart in two rapidly changing situations indicative of its flexibility, mobility and reaction capabilities.

The 4th Squadron (AIR), 9th Cavalry, *Real Cav* has done its part as the eyes and ears of the 6th Cavalry Brigade (Air Combat)—the largest, most mobile and *effective tank killing unit in the free world.*

About The Authors

LTC Kimes assumed command of the 4th Squadron (AIR), 9th Cavalry, 6th Cavalry Brigade (Air Combat) in August 1978. He received his commission upon completing the Infantry Officer Candidate School in 1963. LTC Kimes is also a graduate of the Armor Officer Advanced Course and C&GSC. He holds two degrees—a bachelor's and a master's. His assignments include two tours in Vietnam and two in Germany. LTC Kimes—then a private—entered the Army in 1957. Since then, he has served in various command positions.

Since August 1978, CPT Reed has commanded A Troop, and Squadron S-1, 4th Squadron (AIR) 9th Cavalry, 6th Cavalry Brigade (Air Combat). CPT Reed received a bachelor's degree and commission from Arizona State University in 1973. He is also a graduate of the Infantry Officer Basic and Advanced Courses. Since entering the service, CPT Reed has held positions in various places to include commanding the Aeroweapons Platoon, A Company, 2d Aviation Battalion, 2d Infantry Division in Korea from 1976-77.

STUD CAV
34th SUPPORT BATTALION

continued from page 5

equipment and employment of assets. However, as is the case with line squadrons of the 6th Cavalry Brigade, it must be able to do the job over an area of operations broader and deeper than any ever assigned to a support activity in the U.S. Army force structure.

The 34th must be capable of supporting the huge logistical appetites of squadrons that can deliver more firepower faster and farther than any other organization of similar size. It must be structured to handle communication and coordination problems inherent to the brigade's mode of operation. And, even more important, it must be structured to communicate, coordinate and operate more rapidly than any other support organization in the history of the United States Army.

To meet these requirements the 34th Support Battalion is organized with expanded functional companies to include: Headquarters and Headquarters Company; Supply and Transport Company; Ground Maintenance Company; Transportation Aircraft Maintenance Company; and an Assault Support Helicopter Company. Without augmentations, the 34th is authorized 51 officers, 53 warrant officers and 957 enlisted for a total of 1,061 personnel. It is envisioned that it would be augmented with an administrative company consisting of 17 officers, 3 warrant officers, and 119 enlisted when committed to a theater of operations. Major functions performed by each unit of the 34th are discussed below:

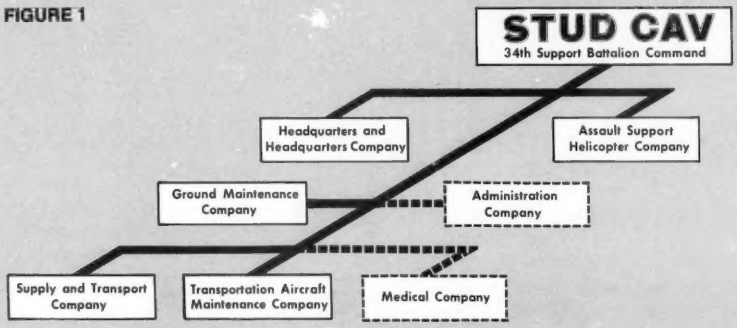
• *Headquarters and Headquarters Company* provides personnel and equipment for command and control of the battalion. Organic to the company is the brigade materiel management and movement management control. The company also provides personnel services, finance and standard installation division personnel system interface branches for limited administrative, personnel and finance support and a brigade data center which lends automatic data processing support for all logistics functions.

• *Supply and Transport Company* is the only organization of its kind. It has 90 vehicles and 280 personnel to support the brigade with ground transportation and supply. This company provides supplies of class I, II, III, IIIA, IV, V, VII and unclassified maps. When augmented for combat, it also would provide clothing exchange, bath support, graves registration support and central issue facility support.

• *Maintenance Company* provides direct support maintenance and repair parts supply to the brigade except for medical, photographic, COMSEC, aircraft avionics, aircraft armament and automatic data processing equipment. (The maintenance and repair of these supply items is provided by nondivisional units: The 55th Signal Company furnishes DS maintenance of COMSEC equipment.) The company maintains an authorized stockage list of common repair parts to support the prescribed load list of units and its own DS requirements. It also provides limited vehicle recovery to the brigade, operates a direct exchange service, maintains operational readiness float for selected items and provides technical assistance and contact teams to augment the maneuver squadron's capabilities.

• *Aircraft Maintenance Company* provides aviation intermediate maintenance support for the brigade aircraft and associated systems, to include armament, and repair parts supply support for the brigade. It also operates a quick supply store service for selected items; it maintains an operational readiness float for selected items

FIGURE 1



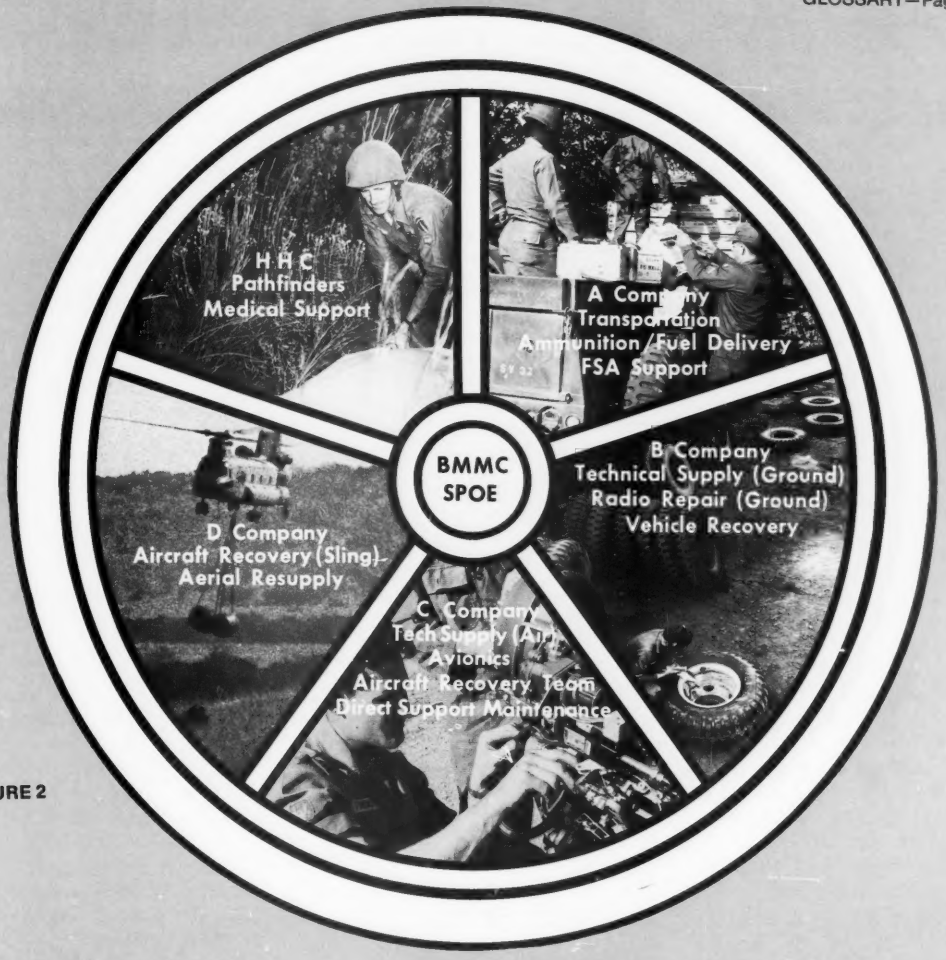


FIGURE 2

and provides technical assistance. The company further provides expertise for aircraft recovery.

• *Assault Support Helicopter Company's* CH-47s provide air transportation for personnel, supplies and equipment required by the brigade. The squadron FARPs are dependent upon these aerial assets for class III and V support. Support from the squadron trains to the FARPs is routinely provided by the Chinooks. Although the primary role of the CH-47 is logistical resupply, assets can be committed for aircraft recovery, to supplement aeromedical evacuation capabilities (when the battalion is augmented with a medical company), and transporting tactical mission personnel.

Now with that understanding of the organization of the 34th Support Battalion, it's appropriate to discuss the composition and concept of the battalion meeting the brigade requirements in combat.

The service support for the brigade consists of a base support area and up to three forward support areas (figure 3). The BSA is located in the brigade trains area about 100 to 200 km behind the FEBA. The support battalion provides supply and maintenance services to the maneuver units in the FSA and maintains the bulk of the brigade supply reserve in the BSA.

The base location depends on the tactical situation, COSCOM's DS/GS support units, terrain, security and the location of the main supply route. In short, it is located where it can best support

the FSA and forward units. The movement of the BSA requires about 24 hours and involves moving 900 tons of supplies and 160,000 gallons of fuel. It also should be recognized that the brigade is dependent upon COSCOM for distribution of class III, IIIA, and V for sustained operation in combat. The FSAs are operated in or near the squadron trains which they support. The squadron trains generally are located 40 to 60 km behind the MBA. The FSA is operated by the maneuver squadron S-4 and is a temporary forward support location which provides wholesale supply, services and maintenance support to combat forces deployed beyond the range of their organic support capability. The movement of the FSA requires about 14 hours and involves moving about 80 tons of supplies and 20,000 gallons of JP-4 aviation fuel.

As pointed out, the 6th Cavalry Brigade can perform a variety of missions in support of combat operation. The remainder of this article addresses logistical support to the Heavy Cav 7/17th and Real Cav 4/9th squadrons in the vignettes described in articles beginning on pages 3 and 4.

Success in combat requires a team effort from each of the five companies within the 34th Support Battalion.

Supporting The Battle. The Stud Cav, having established a BSA about 25 km west of Hodenhagen, is coordinating rear area protection plans with surrounding COSCOM units—all the while receiving and storing all classes of supplies.

At 0600 hours the battalion commander is summoned to the brigade TOC and soon returns with a warning order for his staff and company commanders. "Gentlemen, the brigade has been given the mission of reinforcing the I (Allied) Corps in the vicinity of Braunschweig. I want to establish an FSA that is capable of supporting a 2-day operation. I have recommended to the Real Cav commander that his S-4 establish the trains in the vicinity of Hannover. My S-3 will provide you with the plan and overlays by 1000 hours."

The battalion S-3 begins immediate coordination with the brigade materiel management officer to ensure the availability of critical items of supply to support this operation. The supply and transportation company is directed to pallatize two rearm loads of ammunition for two attack troops and one air cavalry troop for aerial resupply.

Upon completion of the OPLAN the battalion S-3 coordinates with the brigade movements control center for the dedicated use of five CH-47s to assist in establishing the FSA and combat unit FARPs.

The execution paragraph of the OPLAN provides the units with the following information: HHC provides rigging support and pathfinders to control air traffic in the BSA; Company A provides one tailored mobile ASP capable of supporting both air cavalry and attack helicopter troops, engineer support to establish the FSA, two 5,000 gallon tankers and two 10,000 gallon JP-4 bladders; Company B is alerted to maintain a ground vehicle recovery team on 30-minute standby; Company D is tasked to provide three CH-47s to establish the FARPs.

Priority of support is to the Real Cav, initially. Company D also will provide two CH-47s to support the establishment of the FSA, on order. The order to execute the operation is received by the battalion S-3 at 1215 hours. Upon receiving the implementing order, Company A moves to join the Real Cav S-4 in its TAA. Company D launches two aircraft to haul fuel blivets and the FARE system from the 4/9th Cav TAA. The third helicopter moves to the base ASP for loads of pallatized ammunition.

While the Real Cav S-4 closes into the FSA site and establishes operations, a reconnaissance section of the Real Cav has located a suitable site for the FARP in the vicinity of Hildeshiem. The section's leader immediately directs the attack helicopters to maintain overwatch of the area from firing positions below the treetops and dispatches an OH-58 Kiowa to return as an escort for the ground reconnaissance squads, already

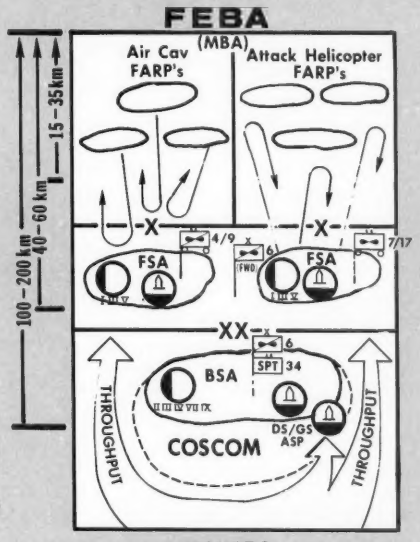


FIGURE 3

airborne in two UH-1H Huey helicopters. The utility aircraft airlift the squads into the landing zone and the troops immediately establish a defensive perimeter around the area. Upon clearing the area, the team leader calls the CH-47s forward. The three Chinooks enter the area carrying sling loads of fuel and ammunition. Utility vehicles, trailers and personnel are internally loaded in the first two aircraft. The slings are unhooked in the nearby treeline and the personnel disembark and rapidly set up the refuel and rearm points.

The CH-47s depart the FARP site for the TAA of the Heavy Cav 7/17 to repeat a similar operation. The entire operation takes only 20 minutes; however, the pilots know they will return to relocate the FARP within the next 6 hours.

Having established operations in the FSA, the two CH-47s dedicated for that mission are slinging in supplies to sustain 2 days of operations. Company A has dispatched both 5,000 gallon tankers back to the BSA for another load.

Meanwhile a frag order is received by the battalion commander to prepare logistical support for a task force to protect an area between Wittengen and Wolfsberg. He determines that an additional FSA is not practicable since the BSA is close enough to provide responsive support for this mission. He does, however, instruct Company A to prepare the other mobile ASP for deployment, if required.

Both operations were successful in blunting the enemy's attack and Allied troops have replaced the brigade's combat troops; both units have returned to their TAA.

The brigade soon receives orders placing it under the operational control of the U.S. V Corps in the Fulda area. This requires a move of more than 200 kilometers to the south and necessitates moving the BSA.

A battalion liaison officer from the BMMC joins the brigade liaison team to effect predeployment coordination with the V Corps. Upon the return of the brigade team, the battalion liaison officer briefs the commander. The battalion commander then issues a frag order for the conduct of the operation.

All transportation assets of the battalion are required to move the personnel plus 3 days of supplies located in the BSA. The Real Cav S-4 also is alerted to "dry up" the POL supplies in the FSA and move to a TAA in the vicinity of Lauterbach. The battalion S-3 publishes a movement order requiring the Stud Cav to move at 1800 hours to join the V Corps COSCOM in the vicinity of Giessen.

The night road march takes about 5 hours to complete. The battalion commander knows that it will be nearly 14 hours before the BSA can function again. To preclude a logistical breakdown, he directs Company D to assist the Heavy Cav in establishing an FSA in the vicinity of Lauterbach and to provide them a 2-day supply of rations, POL and ammunition. Additionally, he dispatches an advance party from the BMMC to coordinate with V Corps COSCOM for throughput support to the FSA until the BSA is established.

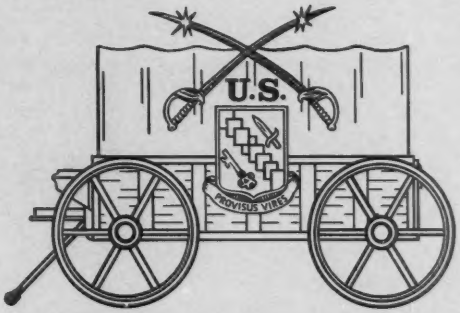
Having completed the move, the battalion rapidly establishes the base area and throughput support reverts from the FSA to the BSA. Once again, the Stud Cav is poised for the next battle.

The 34th Support Battalion's ability to provide the responsive logistical support to the combat units is indeed the "Stud" of this unique tank killer brigade.

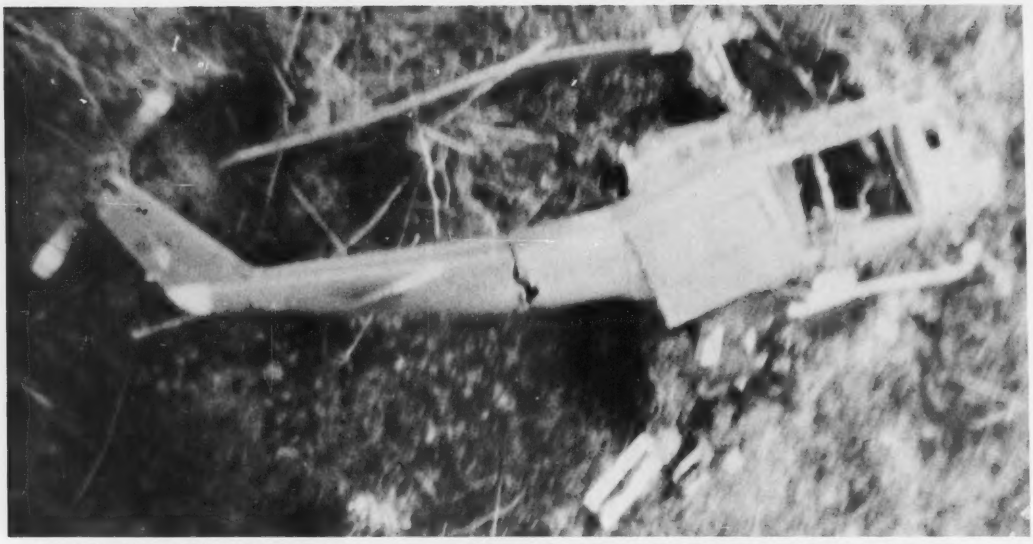
About The Authors

LTC Gauze assumed command of the 34th Support Battalion in December 1978. He is a Senior Army Aviator and a graduate of Officer Candidate School and the Command and General Staff College. LTC Gauze completed flight training in 1960 and entered active duty in 1961. Since then, he has served in various command and staff assignments in Korea, Republic of Vietnam, United States, and Europe. LTC Gauze has also commanded both an aircraft maintenance direct support/general support company and a medium helicopter company.

CPT Pekema is the Assistant S-3 (Operations and Training Officer) of the 34th Support Battalion. He received a direct commission in 1970, holds a bachelor's degree and is a graduate of flight school and the Armor Officer Advanced Course. Since entering the service, CPT Pekema's assignments include scout section pilot (Vietnam), executive/operations officer in an assault helicopter company and battalion S-4 (Supply Officer).



"Don't worry about the mule, just load the wagon"



In April 1969 UH-1H 767 crashed in a dusty Vietnam landing zone, snapping its tail section. MAJ (then 1LT) Clint Williams took this photograph from an AH-1 Cobra covering the airlift

"Grandma"

The Vietnam Veteran

Flies Again

Lieutenant David Vogels

2nd Armored Division
Fort Hood, TX

THERE'S AN "old bird" down at 2nd Aviation Company who could tell just about as many war stories as anybody in the 2nd Armored Division—if "she" could talk. They call her "Grandma," and she still gets around as well as ever, even after the operation.

Major Clint Williams, who took over last June as aviation company commander, recognized his old friend in October 1978. He was the assistant division aviation officer then, and he had reported to Hood Army Airfield at Ft. Hood, TX for some refresher flying.

"I was flabbergasted," he remembers. "I was flying with one of the instructor pilots and he said, 'We've got 767 today.' I said, 'That sounds like the one that crashed in Vietnam.'"

It was indeed the one that crashed in Vietnam. "Grandma," you see, is a Huey—UH-1H helicopter No. 66-0767, manufactured in 1966. And Major Williams had last seen her 9 years earlier at a dusty landing zone near Dau Tieng, her tailsection almost snapped in two.

Major Williams was then a first lieutenant and flight section leader for the "Killer Spades"—B Company, 229th Aviation Battalion (Airlift), 1st Cavalry Division (Air Mobile) (the battalion is now stationed at Ft. Campbell, KY).

"We were flying a 10-ship insertion into a tactical landing zone (LZ) out in the woods near III Corps LZ Grant," he recalls. "It was a big operation immediately after Tet of 1969, in late April. That was the first lift going in, and aircraft 767 was number 10 in a flight of 10.

"It got kind of hairy sometimes down at the bottom—there was a lot of fire in the area. "Grandma" was going into a hot LZ, it was really dusty and it crashed; that's all I can tell you. I don't think it was hit—it wasn't written up as a combat loss due to enemy fire."

Major Williams, who was the gunner in an AH-1 Cobra covering the Hueys, says there were six Soldiers (Infantry) on board in addition to 767's crew. "One infantryman was crushed pretty bad (he survived), but none of the crewmembers were hurt, except for their pride."

The crew was picked up by the preceding helicopter in the flight, and Major Williams' Cobra provided protection while a CH-47 Chinook hoisted 767 out of the LZ. Major Williams also was able to take some pictures of the extraction (they accompany this article).

It turns out that 767 was shipped to Corpus Christi, TX, for rebuild. Old "Grandma," who had taken her share of enemy bullets, was patched up almost as good as new and sent to Ft. Benning, GA.

After another facelift, this time a normal rebuild, 767 arrived at Ft. Hood in September 1974. The Vietnam veteran has racked up about 4,750 hours of flight time all told.

"It must be a well-made helicopter," said Private First Class Roger Wine, her crewchief in the 2nd Aviation Company. "It's the oldest bird we have."

The 13-year-old "Grandma" who was wounded in action is still flying her missions. And she doesn't look a day over 11.

A CH-47 Chinook extracts the battered Huey from the landing zone. After taking this photograph, MAJ Williams would not see the helicopter again until 1978 at Ft. Hood

Today UH-1H 767 sits on the flight line of 2nd Aviation Company, 2nd Armored Division, at Ft. Hood, TX

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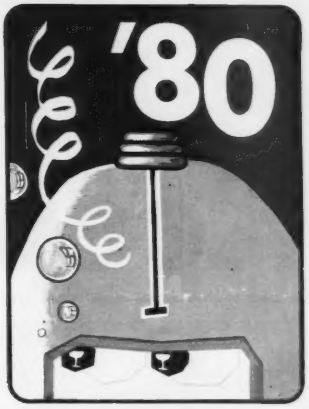


Editor:

My copy of the June 1979 issue of the *Digest*, which I had squirreled away when I recognized the picture at the top of page 6 as one of "my" airplanes, and myself doing the hand-labor, again came to my attention today. The fine article by LTC Richards on Army aviation in Hawaii particularly interests me, because of some experiences I have had there.

In early 1945, the 418th Field Artillery Group, consisting of a group headquarters and two battalions of 240 mm howitzers, then temporarily based at Schofield Barracks, came to the Big Island for firing practice, since the area between the mountains Mauna Loa and Mauna Kea provided the only area in the Islands where observed fire of those long-range weapons could be conducted. As air officer of the group, I was faced with finding a landing strip for the six L-4's organic to the group and its battalions.

The group bivouacked at Pohakuloa Training Area, at the foot of Mauna Kea, from which spot the howitzers could fire onto the slope of Mauna Kea, the area being uninhabited and desolate. Terrain surrounding the area occupied by the group consisted principally of lava beds, hardly suitable for aircraft operations. A thorough reconnaissance, by vehicle as the six aircraft were being reassembled at Lyman Field, Hilo, following shipment via LST from Oahu, disclosed that the only area suitable for an airfield anywhere near the group area was on land belonging to the Parker Ranch. Working through the Hawaiian Department Engineers, arrangements were made to utilize a sufficient space of the Ranch to construct a rudimentary airfield, with a runway, operations tent, maintenance/supply tent, and fueling facilities.

To construct the runway, a bulldozer simply leveled off a 500-yard strip of the surface, exposing a continuous stretch of fine volcanic cinders, which were compacted by a roller to form a reasonably hard surface—at least satisfactory for the L-4s with their large, low-pressure tires. The runway started at the 3½ foot fence which formed the boundary between the government land and the Parker Ranch property, and extended exactly 500 yards. After completion of the runway, the group's aircraft flew up from Hilo and landed to activate the airfield.

Operating from the strip was interesting, to say the least. The field was approximately 6,300 feet above sea level. Flights to observe firing of the 240's invariably carried an observer as well as the pilot. SOPs in effect dictated that both pilot and observer use back-type parachutes, sit on a seat-type folded survival raft; and wear a Mae West life preserver, pistol belt with weapon and canteen; and the communications equipment was an SCR-610 radio, designed for a Jeep, but mounted behind the rear seat. With such a load, the altitude and frequent high temperatures meant that the 65 h.p. Continental engines really had to do their best. Take-offs made into the prevailing wind ensured that the pilot really sweated it out, and counted any distance over 2 inches that the wheels cleared the top wire of the fence as an unexpected bonus. Surprisingly, we never once went through the fence!

In January 1978 on a visit to the Islands, I drove from Hilo to Kona on the Big Island, and passed the Pohakuloa area, now a public recreation area, and shortly afterward came to Bradshaw Army Airfield, where I stopped for a visit and look-around. After trying to reorient myself after a lapse of about 33 years, I realized that Bradshaw is located perhaps a quarter or half a mile closer to the slope of the mountain than the location of the 418th FA Group's unnamed airfield, but the main runway is exactly parallel to the original one.

Just thought that you might like to know that there was Army aviation on the Big Island of Hawaii long before the 25th Division built Bradshaw Army Airfield.

Henry S. Wann
250 Nottingham Road
Williamsburg, VA 23185

Editor:

I am gathering information on the pros and cons of having enlisted pilots in the military. Would appreciate hearing from anyone with opinions, references to pertinent articles and reports, etc.

Robert G. Schipf
Science Librarian
University of Montana
Missoula, MT 59812

U.S. ARMY SAFETY CENTER

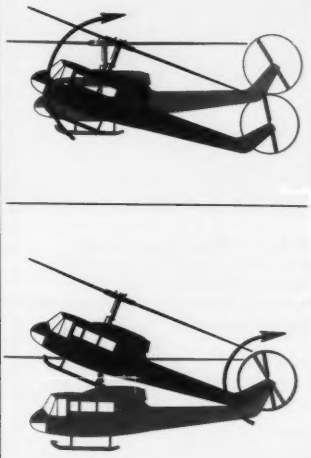
Keep that tail up!

ANY MANEUVER performed at nap-of-the-earth (NOE) altitude requires a great deal of precision. But based on past accident experience, if there's any one single maneuver that every pilot flying NOE should master, it is the NOE deceleration. In FY 79, three Huey accidents occurred during NOE decelerations due to incorrect technique or ineffective control input.

Take, for instance, a UH-1 pilot and IP who were on an annual proficiency and readiness test flight. During the flight, the IP demonstrated an NOE deceleration and then had the pilot perform two decelerations at about 20 feet. The pilot applied too much aft cyclic for the amount of collective pitch application, causing the helicopter to pivot around the mast rather than the tail rotor. The IP explained and demonstrated the maneuver again at about 5 feet agl so the pilot could get more of a sensation of altitude gain. At this time, the wind was 10 knots gusting to 16 knots. The IP then told the pilot to perform another deceleration. During the maneuver, the pilot again applied too much aft cyclic for the amount of collective pitch and failed to maintain sufficient altitude for the tail rotor to clear the ground. The helicopter spun right, and the IP reduced throttle to land. The tail boom, cross tubes, and left side of the aircraft were damaged.

In another case, an IP demonstrated an NOE deceleration during NOE refresher training and the pilot performed two of them satisfactorily. The IP demonstrated another NOE deceleration at a skid height of 10 feet. The pilot again performed two maneuvers to the IP's satisfaction but allowed the aircraft to unmask excessively. The pilot was having some difficulty visualizing the position of the aircraft from this altitude, so the IP allowed him to descend to 5 feet and perform the maneuver downwind. As the aircraft accelerated through effective translational lift, the pilot slightly lowered collective in an attempt to keep the helicopter from unmasking and abruptly applied aft cyclic. The nose of the aircraft pitched upward, rotating around the axis of the main rotor instead of the tail rotor. Before the IP could react, the tail rotor struck the ground and separated. The helicopter then turned right, hit the ground again on the left skid, and rolled on its left side.

A third accident occurred when an IP was demonstrating an NOE deceleration over downsloping terrain. While flying at an altitude of 5 feet and airspeed of 15 to 20 knots, the IP slightly applied collective and aft cyclic to decelerate. Due to a slight downslope of 3 degrees along the flight path, the IP misjudged the



Top figure shows wrong technique for NOE deceleration maneuver. When the helicopter is rotated around the axis of the main rotor, the tail boom goes down as the nose of the aircraft goes up. This puts the tail boom into trees and other obstacles. Bottom figure shows correct NOE deceleration maneuver, with the aircraft rotating around the axis of the tail rotor instead of the main rotor. This raises the nose of the aircraft but keeps the tail of the aircraft stationary and above ground obstacles.

IP did not have time to react to an abrupt application of aft cyclic by the pilot. Tail rotor struck ground and separated, and Huey rolled on left side.

effectiveness of the control input and the distance between the tail rotor and ground. When the tail rotor hit the ground, the 90-degree gearbox separated, and the helicopter spun and landed hard.

Unlike a normal deceleration at altitude in which the helicopter rotates around the axis of the main rotor, the helicopter must rotate around the axis of the tail rotor during NOE due to the critical height of the helicopter above the ground or obstacles. This technique raises the nose of the helicopter but keeps the tail of the aircraft stationary and above ground obstacles.

The correct way to perform an NOE deceleration below effective translational lift is to increase collective to maintain tail rotor altitude and then apply aft cyclic to decrease airspeed or to come to a complete stop. (The amount of initial collective pitch will depend on your forward airspeed, load, and how fast you want to stop.) As the helicopter comes to a halt, slightly apply forward cyclic to level the helicopter and then reduce collective to maintain the helicopter at the desired NOE altitude.

View of damage to vertical fin after tail rotor hit ground and 90-degree gearbox separated.

At airspeeds above effective translational lift, an initial increase of collective may not be necessary. In this case, apply aft cyclic first and then adjust collective as necessary to maintain tail rotor altitude. In most cases, a reduction of collective is necessary. The amount of reduction will depend on how much and how fast airspeed is being reduced.

These procedures for NOE deceleration apply to the Huey, Cobra, and Scout helicopters. However, if the helicopter used as the primary training vehicle during initial training is not the one that will normally be flown, it is recommended that additional NOE deceleration training be given in the mission helicopter.

U.S. ARMY SAFETY CENTER

More On Emergency Locator Transmitters

Still No ELT Batteries

AN ARTICLE pertaining to the emergency locator transmitter (ELT) appeared in the "PEARL" section of the October 1979 *Aviation Digest* This article stated that, according to the Air Force Coordination Center, the ELT is still one of the most effective means of locating crashed aircraft, despite false alarms that are sometimes emitted. The Army Safety Center totally agrees with this statement and supports the need for ELTs; but we are still faced with a problem with the ELT batteries.

For instance, in February 1979, the Federal Aviation Administration (FAA) issued Airworthiness Directive (AD) 79-05-02 requiring the removal of lithium sulfur dioxide ($LiSO_2$) batteries and ELTs powered by these batteries from all U.S. registered civil aircraft. This AD was prompted by reports of battery failures resulting in explosions and violent venting of sulfur dioxide gas which could cause serious injury and/or loss of the aircraft.

As a follow-on, USATSARCOM issued a safety-of-flight message (DTG 281900Z March 79) requiring removal of ELTs with these types of batteries from Army aircraft. ELTs are commercial, nonstandard items without an NSN and are authorized in Army aircraft in Alaska and Panama. The only aircraft in which ELTs are installed and authorized worldwide is the C-12.

Although FAA issued a Technical Standard Order (TSO) for a commercial-type nonlithium battery for ELTs, a battery has not been manufactured or tested in accordance with the TSO specification. Therefore, FAA has extended Airworthiness Directive 79-05-02 to March 1980 and requires that all civilian aircraft be placarded with the following: "ELT inoperative due to batteries being removed."

At the present time, the Army has aircraft flying around without ELTs, which could mean the difference between survival and nonsurvival of aircrewmembers. Unfortunately, there has been no known progress in pursuing the development of a new battery for ELTs. In the meantime, you will have to depend on flares, the signal mirror, and the survival radio.

Will you be ready?

FLYING HAS OFTEN been described as hours of boredom punctuated by moments of sheer panic—the result of sudden surprises we call in-flight emergencies.

In one year, Army aviators were involved in more than 2,600 such emergencies. These resulted in 29 destroyed aircraft, 18 major accidents, 13 minor accidents, 21 incidents, 121 forced landings, 2,443 precautionary landings, and 22 other type mishaps. Collectively, these mishaps produced 50 fatalities and 67 injuries. Costs for damages and injuries totaled more than $25 million.

Translated another way, these statistics tell us we can expect one aircraft to be destroyed approximately every 12.5 days; a major accident to occur every 20 days; a minor one, every 28 days; an incident, every 17.5 days; and a forced landing, every 3 days. In addition, we can look for more than 6.5 precautionary landings to occur daily. On the average, we can expect Army aviators to be involved in 7.3 emergencies each day or in one emergency every 543 hours of flight. We can further expect one crewmember or passenger to be killed every 7.3 days and one to be injured every 5.4 days. And we can predict our dollar costs to continue at an average rate of more than $69,000 a day—all as a result of in-flight emergencies.

Hard landing resulted when pilot attempted autorotation after misinterpreting self-induced condition as tail rotor failure.

When you consider these statistics, two facts become obvious: First, in-flight emergencies are costly in terms of both lives and dollars; and second, no one who flies is immune to them.

Are you knowledgeable concerning your aircraft and its systems? Are you aware of the symptoms various problems will exhibit? Should you suddenly be faced with one or more symptoms, will you be able to accurately diagnose the problem and take immediate and proper corrective action? The following pilots apparently couldn't:

An AH-1 pilot on an NOE tactical training mission slowed his aircraft and lost translational lift. To maintain his heading, he applied full left pedal, but because of an overgross condition there was inadequate tail rotor thrust. The aircraft began to turn to the right. Believing the problem to be mechanical tail rotor failure, the pilot initiated emergency procedures by reducing throttle. When he suddenly applied aft cyclic to miss a sand dune, one main rotor blade struck the tail boom. The aircraft came to rest with minor damage.

While at a 300- to 400-foot hover, an OH-6 began losing N2 and turning slowly to the right. The pilot did not notice the loss of N2 until it decreased through 80 percent. Loss of N2 resulted in reduced antitorque control and the aircraft began turning faster to the right. Believing the aircraft was settling with power, the pilot applied forward cyclic but did not reduce collective pitch—an action that would have alleviated either ineffective antitorque control or settling with power. Consequently, the aircraft continued to descend while turning at an accelerated rate until it hit the ground.

An OH-58 pilot brought his aircraft, which was at a near maximum gross weight condition, to a 50- to 60-foot hover (out of ground effect) in a 10- to 20-knot tailwind. After initiating a turn to the right, he found he could not stop the turn. Misinterpreting the self-induced condition of exceeding left pedal tail rotor authority as tail rotor failure, the pilot closed the throttle and attempted an autorotation. Because the aircraft was operating within the avoid area of its height/velocity diagram, a hard landing was inevitable. The aircraft sustained major damage on touchdown.

The pilot of this OH-6 diagnosed loss of N_2 as settling with power and applied forward cyclic but did not reduce collective pitch.

Cobra sustained minor damage when pilot misinterpreted inadequate tail rotor thrust as tail rotor failure and reduced power.

When the No. 1 engine of a U-8F failed during climbout after takeoff, the pilot diagnosed the problem as propeller governor failure. He left the propeller in low pitch and made a steep left turn at near single-engine control speed, causing the aircraft to stall. The pilot managed to level the aircraft before it hit on a shoreline. Following impact, the aircraft continued forward into the ocean and sank.

After the No. 1 hydraulic system and master caution lights of an AH-1G came on, the pilot did not declare an emergency to gain landing priority. When tower personnel directed the pilot to change landing runways, he responded by trying to hover to the parking ramp. This led to a loss of airspeed and aircraft control. The aircraft crashed and was destroyed.

Instead of declaring an emergency to gain landing priority, AH-1 pilot tried to respond to order from tower to change runways by hovering to parking ramp. Loss of airspeed and aircraft control resulted in destroyed aircraft.

When an OH-58 pilot made a slow, right, downwind turn at 100 to 150 feet agl, he allowed the airspeed to decrease, causing the aircraft to lose effective translational lift. Instead of realizing that the power required exceeded the power available, the pilot incorrectly thought the tail rotor had failed. So he reduced collective pitch, closed the throttle and entered autorotation. The aircraft landed hard, causing major damage to the airframe.

In contrast to these accidents, the pilot of a CH-47 saved his aircraft by landing at the first flicker of the chip detector light. The aircraft was about a mile and a half away from the runway during approach for landing. The pilot noticed the transmission chip detector light flicker and felt a vibration. Without any hesitation, he made a precautionary landing rather than continue his approach, even though the runway lay just a short distance ahead. As the aircraft touched down, the transmission exploded and the aircraft caught fire, causing major damage to the aircraft and to both main rotors. Six persons were aboard this aircraft. Had the pilot not been attentive and seen the warning light flicker, or had he ignored the warning and continued his approach since he was so near his destination, there is little doubt that the aircraft would have been destroyed and all on board killed.

How would you have fared in any of these situations? The only genuine solution to the problem of in-flight emergencies demands that you hope for the best while staying constantly prepared for the worst. Your "hope for the best" is justified by your thoroughness in flight planning and performance of inspections, cockpit and operational checks; by strict adherence to regulations and SOPs; and by staying constantly alert in the cockpit.

Staying constantly prepared for the worst embodies knowledge, skill and experience. You must know your aircraft and its systems. You must be able to identify symptoms and be able to correctly interpret them. You must know what corrective action is demanded in any given situation. You must possess the skill necessary to effectively apply correct techniques. Consequently, you need to appraise your capabilities and limitations in an honest and thorough manner, then set about making any improvements you have determined to be necessary.

If you don't like sudden surprises when you fly, preferring the "hours of boredom" to the "moments of sheer panic," the time for personal appraisal and preparation is now. It's too late to bone up on TMs and operators manuals and to practice techniques after an emergency occurs.

U.S. ARMY SAFETY CENTER

The inner game—can you afford to ignore it?

Inner Flying

Major
Michael M. Jacobi
Flight Commander
Lowe Division
Department of Flight Training
Fort Rucker, AL

DWIGHT STONES seems to be in a trance as he mentally rehearses exactly how to clear the high jump higher than anyone ever has. It's haunting to watch. His eyes glaze over, his head weaves back and forth. It's obvious he is imagining running at the bar and following every step.

Dwight runs 10 precise steps in a curve that brings him to a predetermined point in front of the bar and in one explosive jump he flows over the bar to set a record that has been beaten only recently. *How did he do it?* How does every great athlete achieve the ability that sets them apart from others? Discipline—mental and physical!

MENTAL DISCIPLINE.

Fear: The inner game isn't new. Recently, successful books have been published about inner tennis and skiing. However, flying presents a unique challenge. Of all human phobias, fear of flying may be the most universal. All aviators suffer anxious moments. Their fear is real and in some cases justified. This basic fear must be conquered before the best characteristics of a good learning environment are achieved.

Everyone has a natural way of learning. There's no secret method. We were born with the innate ability to emulate others, and flying is not the first time we've been thrust into a strange and awkward world. Our first breath must have been traumatic and swimming was no picnic for some, but an aviator will never forget soloing. We have to deal with impediments to our natural learning abilities—in this case fear.

Confidence: The opposite of fear is confidence which is gained through more and more training. Training done in the mind's eye is the most overlooked form. Many aviators have neglected to capitalize fully upon this mental skill called visualization.

Imagination: ***Research Quarterly*** once reported on an experiment in mental practice to improve athletic skills. In one experiment students were broken down into three groups and were tested at basketball free throws. Thereafter, group 1 actually practiced throwing the ball every day; group 2 did nothing; and group 3 spent 20 minutes a day mentally visualizing that they were throwing the ball at the goal. When they missed they would imagine that they corrected their aim accordingly. After 20 days all three groups were retested and group 1 improved their score by 24 percent; group 2 had no improvement; and group 3, which daydreamed, improved by 23 percent.

Similar studies have been done with darts and books have been written about the power of imagina-

tion. In football, there is skull practice and aviators at one time enjoyed a great deal of hangar flying.

PHYSICAL DISCIPLINE.

Guidance System: The aviator that takes the controls of an aircraft becomes a guidance system. This sytem is more complicated than those installed on any missile. It is imperative that the system be programed to handle any situation it may encounter. It must program itself for any contingency, for unlike the aircraft the pilot flies, people are thinking and emotional beings. They have the mental ability to unravel almost any emergency situation and apply corrective actions that will get them on the ground. People aren't machines; therefore, corrective actions must be programed over and over to defeat the emotionalism of the moment and not have a temporary retrieval problem with the computer.

Emergency Procedures: Those that can be practiced in the aircraft are practiced over and over. However, prudence precludes practicing many of them and, in this respect, even the synthetic flight training system has its limitations. An aviator can't be expected to perform logically and instantaneously if the aviator—

- Hasn't mentally prepared for these situations.
- Hasn't "daydreamed" through them again and again.
- Is equivical or unsure as what to do in every situation.

Visualization: One key to visualization appears to be making your images as graphic as possible. This maximizes benefits and approximates actual practice. In fact, actual contraction of associated muscles occurs.

Visualization cannot replace hands-on training. It's a supplement —use of imagination and memory! It's a good method of building confidence, of being positive as to what to do in any situation. If football's great running back Jimmy Brown never played a game without it, can we afford to ignore it?

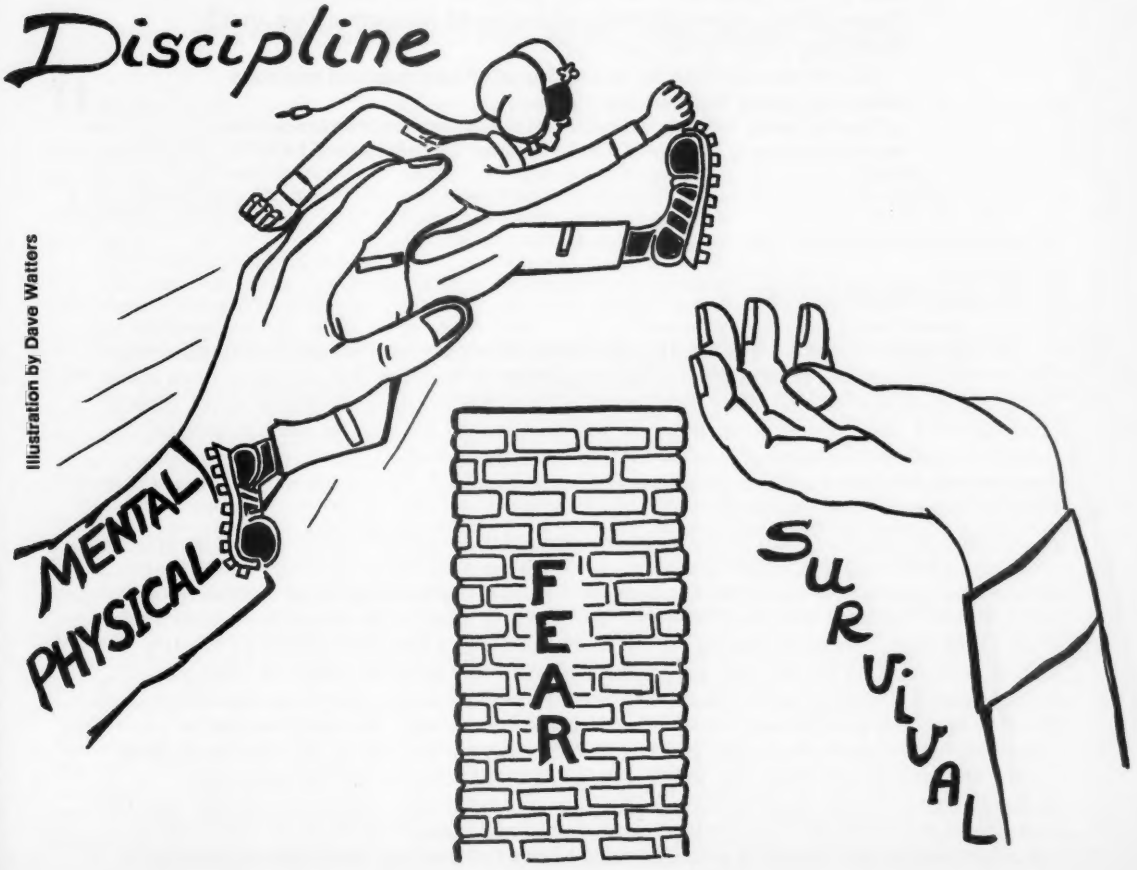
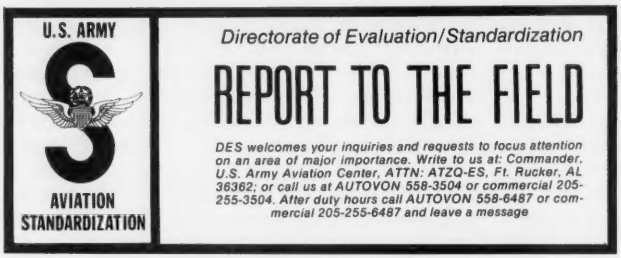


Illustration by Dave Watters


U.S. ARMY
AVIATION
STANDARDIZATION
Directorate of Evaluation/Standardization
REPORT TO THE FIELD
DES welcomes your inquiries and requests to focus attention on an area of major importance. Write to us at: Commander, U.S. Army Aviation Center, ATTN: ATZQ-ES, Ft. Rucker, AL 36362; or call us at AUTOVON 558-3504 or commercial 205-255-3504. After duty hours call AUTOVON 558-6487 or commercial 205-255-6487 and leave a message

Simulated Emergencies

The following question was addressed to DES: *May an IP, in simulating flight emergencies in the UH-1, be permitted to pull circuit breakers, turn off generators or inverters, or "beep down" the rotor rpm as long as he remains within the operating limits of the aircraft?*

DES responded with its perception of IP attitudes and methods when simulating flight emergencies.

The following letter is indicative of the predominantly favorable response to our STACOM in the 24 October 1979 issue of FLIGHT-FAX.

Directorate of Evaluation and Standardization
USAAVNC
Fort Rucker, Alabama 36362

1. In response to STACOM #49, UH-1 Simulated Emergencies, I would hate to think that this question was asked by an IP/SIP. This sounds like a question that may have been asked by an operational pilot who, after flying with an IP/SIP who pulled circuit breakers, turned off generators and beeped down the rpm, was chewed out because he did not respond correctly to all simulated emergencies. Maybe this type of IP/SIP was supposed to have disappeared, but if you ask this question of pilots in the field, I'll bet you will find that there are quite a few of these guys left.

2. In my opinion, the IP/SIP in the field is supposed to be there to evaluate, guide, help and correct the working pilot. If the IPs/SIPs are doing their job on a day-to-day basis, there should be no problem in the pilots' handling simulated inflight emergencies. I think a lot of pilots have the attitude that the IP is going to try to load them with emergencies until they break. This type of negative feeling on the part of pilots is, I feel, brought on by the IPs themselves. In the SFTS the IPs can do much to eliminate the pilot's fear by explaining the symptoms and corrective action to be taken before executing the emergency procedure. Tell the pilot that he is going to experience a certain emergency and take away the fear of uncertainty and apprehension that most of us feel when we are with an IP. The same thing holds true when we are flying the aircraft. Before a flight that will include simulated emergency procedures, does the IP talk about these procedures, explain symptoms, how the aircraft will react and what corrective action should be taken? If he does, the pilot will be less apprehensive and maybe in a better frame of mind to perform these procedures. Our

main objective is to train the pilots to be able to cope with these emergency situations.
3. I guess it all boils down to the fact that we as IPs are not gods sitting in an ivory tower. We are professionals who have the experience and knowledge to help the pilots in our units and get the most from every hour we fly with them. If we do our job in the training phase of our business, the pilots should have little trouble during the evaluation phase. If we see a pilot not filling out a TOLD Card or a Weight and Balance Form, instead of chewing him out and walking away, maybe we should sit down with him and find out why he is not doing this and help him do it correctly. If all IPs/SIPs would take this attitude, I think the whole program would benefit and we would have a much better working relationship between IPs and pilots and surely enhance the operational and safety aspects of any unit. As IPs, let's work with and for our pilots to get the job accomplished.

J. RAYMOND SCAMMON
CW3, ME ARNG
Flight Instructor

Professionalism and Mutual Trust

Have you ever wondered:

- Why so many redundant flight related events occur in the day-to-day operations of many aviation units?
- Why it takes hours of preflight and administrative effort to accomplish a 1-hour flight?
- Why some aviators insist on making a detailed inspection of the tail rotor drive shaft, or disassemble the engine cowlings after crewchiefs have inspected the areas as a part of their daily inspections?
- Why maintenance personnel shudder when aircraft for which they are responsible are assigned to aviators whose reputations for recklessness and derring-do far exceed their abilities?

There is a persistent undercurrent of thought inherent in these questions, and possible conclusions can be drawn.

If such questions develop within an organization, chances are that a situation exists where the professional competence of the aviators and maintenance personnel is questioned, and the necessary teamwork between the two is lacking at best, and nonexistent at worst. When a unit is confronted with this type of situation, you can bet your boots that the root cause of mutual distrust is the failure of all concerned to meet accepted operational and professional standards.

AR 95-1 states ". . . standards must be met and observed by aircrew and maintenance personnel to ensure safe, orderly flight and mission accomplishment." The regulation does not single out one individual but calls on the entire flight/maintenance team to maintain acceptable standards. If any member of the team abuses aircraft by unacceptable flight techniques or maintenance practices, unit combat readiness is compromised. Mutual trust is absolutely necessary in our profession and it need not be such an illusory goal in the aviator /maintenance interface. It can and will be achieved when total professionalism is displayed by all members of the aviator/maintenance team.

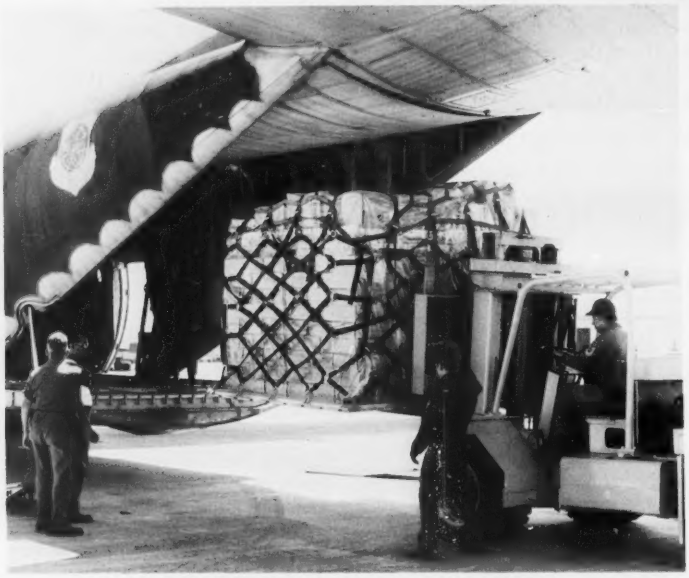
The goal of mutual trust is enhanced when team members display a personal pride in a job well done. Personal pride is the *sine qua non* in the development of an atmosphere of total professionalism. Personal pride is nurtured by the timely recognition of laudable performances (individual and unit) by supervisors and commanders. An individual who is assigned a task and performs it well should be rewarded with the recognition he or she deserves. Crewchiefs performing by-the-book maintenance daily inspections see little reward for their efforts when the aviator repeats the inspection. Conversely, the individual who performs a task poorly should be removed from the job and replaced by someone who accepts the challenge to perform in a professional manner. Just as personal pride is essential to professionalism, the concept of total professionalism must be all pervasive in the minds of Army aviation personnel before mutual trust can be a reality.

Who is responsible for achieving total professionalism and mutual trust? The responsibilities of the unit commander are clearly defined in AR 95-1, as are those of the crewmembers and maintenance personnel. They all have their parts to play. The fiat of the regulation is one thing; the attitudes of the personnel are another. Unit excellence is achieved when commanders accept nothing less than total professionalism within their organizations. Their supervisory personnel must be of a like mind and must not tolerate or gloss over nonprofessional performance. Their crewmembers and maintenance personnel must show a personal pride in their professional competence and refuse to affix their signatures of approve work that does not display such competence.

Only when we have achieved total professionalism and mututal trust can we begin to consider reducing preflight and administrative tasks and eliminating redundant procedures that detract from efficient operations.

HURRICANE/ Puerto Rico Army National Guard

From The Adjutant General
Puerto Rico Army National Guard



At Muniz ANG Base, heavy equipment is loaded in C-130 for transport to the Dominican Republic

ON 9 SEPTEMBER 1979 the Secretary of the Army ordered to active duty on a voluntary basis personnel of the Army Aviation Section of the 92d SIB, Puerto Rico Army National Guard, to support the assistance operation to the Dominican Republic in the wake of Hurricanes Frederic and David. By noon of the next day eight UH-1 Hueys were on their way to the Dominican Republic. After a short stop at Borinquen Field, Aguadilla, Puerto Rico, for refueling and loading some medicines, the UH-1s landed at the San Isidro Air Force Base of the Dominican Republic to set camp, operations, sleeping quarters, first aid station, kitchen and communications during the night. They were on the job within less than 20 hours after being alerted.

When the mission was over on 7 October the National Guard troops had logged more than 766 flying

A flight of UH-1s of the Army Aviation Facilities of the PRARNG 92d SIB arriving at San Isidro Air Force Base at the Dominican Republic

hours while performing more than 162 mercy missions, and together with Air Force aircraft moved 300 tons of cargo (food, medical supplies and other), and more than 1,000 people including patients, wounded, engineers, doctors, nurses, liaison officers and surveyors of the U.S. (disaster) Evaluation Team, etc.

The mission to the Dominican Republic occurred barely a week after the Puerto Rico Army National Guard had been called to state active duty for rescue operations in Puerto Rico in the aftermath of Hurricanes David and Frederic. In the Puerto Rican operations 2,100 troops answered the call in less than an hour and were responsible for saving at least 200 lives in the flooding that followed the hurricanes. In Puerto Rico helicopters of the 92d SIB flew more than 150 rescue, medical evacuation and medical supply missions in weather with a ceiling of 500 or less, poor visibility, heavy rains and gusty winds.

One of many hazardous landings at isolated areas for delivery of supplies

Local people help unload food supplies in isolated area of the Dominican Republic

"Scouts Out"

When recently graduated aeroscout pilots arrive at their new units their commanders will have acquired unique and invaluable skills

Captain Craig Searfoss
Attack/Aeroscout Branch, Hanchey Division
Department of Flight Training
Fort Rucker, AL

DURING JANUARY 1978 a one-time dream of all Air Cavalry and attack helicopter commanders became reality when the first initial entry rotary wing students at the U.S. Army Aviation School at Ft. Rucker, AL, received instruction on how to be aeroscouts. Since then about 400 aviators have been graduated as fully qualified aeroscouts from this highly diversified, extremely demanding and incredibly challenging phase of training. The phase is 8 weeks long and has two very important purposes:

- To qualify carefully selected and thoroughly screened commissioned officers, warrant officers and warrant officer candidates in the safe operation of the OH-58 Kiowa helicopter in a visual flight environment.
- To provide them with a complete mission knowledge of those difficult and rare skills and techniques necessary to operate as an Air Cavalry or attack helicopter aeroscout aviator in a high threat environment.

The aeroscout phase consists of 60 flying hours which must be accomplished in the short period of 40 training days. The program is divided into two stages—"transition" and "combat skills." The transition stage consists of 10.5 flying hours, including an evaluation ride. This stage deals solely with teaching the student aviator how to fly the Kiowa.

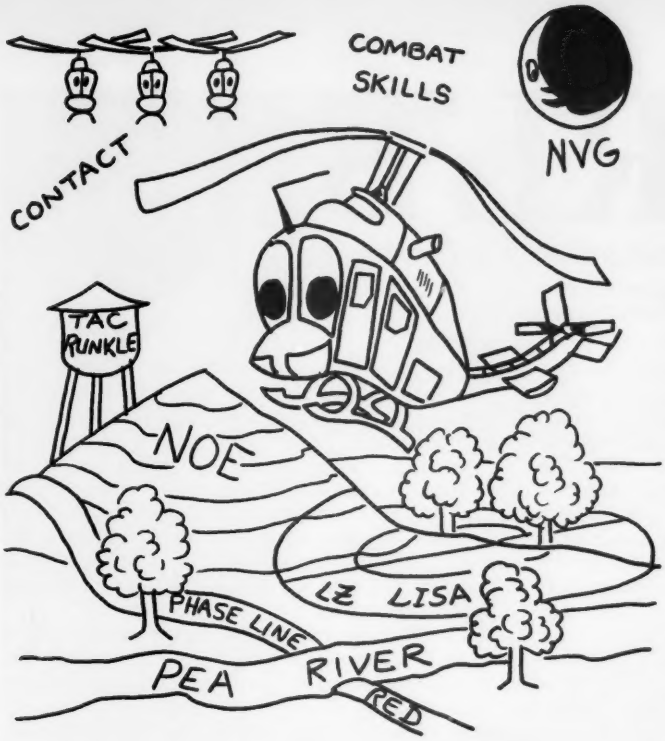
The combat skills stage consists of 49.5 flying hours, including a 2-day evaluation ride. During this stage students receive thorough instruction covering a multitude of diverse subjects which lead to the mastery of the skills aeroscouts must acquire to complete their missions. There are about 70 distinct and validated tasks that are taught during the combat skills stage. These tasks include terrain flight navigation, nap-of-the-earth flight, rapid refueling procedures, techniques of movement, selection of attack helicopter firing positions, zone reconnaissance, tactical use of night vision goggles, and a great many more, all of which are important but are too numerous to mention here.

One of the highlights of the combat skills stage takes place when the students begin receiving mission-oriented instruction. All receive a fragmentary order for the next training day's operation. The individual instructor pilots (each of whom has mastered the special skills of the aeroscout) usually add some specifics to tailor to the students' needs and proficiency. The students, then, are responsible for planning and executing the mission that they each receive. This method of instruction is unequaled in developing leadership, self-confidence and self-reliance which are attributes that all aeroscouts must possess.

Feedback acquired from military installations and units throughout the world that have received graduate aeroscouts clearly supports that the aeroscout program *is providing* a thoroughly proficient, knowledgeable and mission-ready aeroscout product to field commanders. When we (the Aviation Center at Ft. Rucker) say, "Scouts Out," it's telling field commanders, "Here are new Army aviators, qualified as aeroscouts. Build upon the knowledge they possess so that they can be helpful to you in fulfilling your mission."

What can field commanders expect?

Initial assignment. For the majority of these new aeroscouts, it is their first assignment to a combat unit (indeed—*any* military unit for some). This in itself should pose no unusual problem for commanders. However, it might be well to recognize that these new aviators are



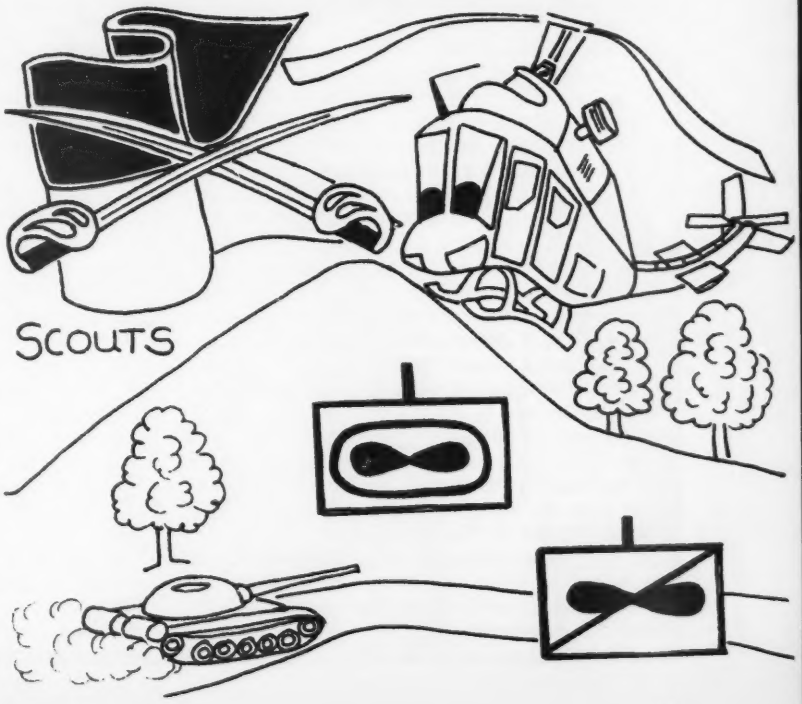
Illustrations by Dave Watters

highly impressionable; their initial responses and impressions of the units and their missions are probably an important factor in influencing their attitudes for the next few months.

Qualifications. Field commanders have gained aeroscout aviators who possess a basic knowledge of aeroscouting skills. Commanders should build upon this framework through constructive unit training and strive to develop these skills to their fullest extent in accordance with their units' missions and locales. Commanders should expect to tailor the schooled skills of their aeroscouts to conform to the needs of the units. The training at the Aviation Center has been designed to make this tailoring process relatively easy.

The new aviators have been exposed to many facets of being aeroscouts. This means they have experienced opportunities for the stress of complex missions, and the need for flexible attitudes. Although experienced in a school environment, they nevertheless have been exposed to these experiences and possess the ability to deal with new situations and to make rational decisions. They have been trained to accomplish more than one task at a time and to operate efficiently, despite constantly changing mission environments.

It would be absurd to suggest that *all* new aeroscouts can solve *every* problem which will confront them. Naturally, some will excel at some tasks better than others. But all are primed and of use as a starting point for additional training. Through unit training and a thorough understanding of the unit's mission and procedures the aeroscout aviators will build upon already learned individual skills and develop them into team skills. Once these team skills are acquired through supervised unit training, commanders will know that the mission will be accomplished when they order, "Scouts Out."



PEARL'S

Personal Equipment & Rescue/Survival Lowdown

If you have a question about personal equipment or rescue/survival gear, write PEARL, DARCOM, ATTN: DRCPO-ALSE, 4300 Goodfellow Blvd., St. Louis, MO 63120

ALSE Training

Our hats are off to the Fifth U.S. Army Aviation Safety and Life Support Office and Army National Guard for being the first to hold ALSE workshops. The Fifth U.S. Army convened its first ALSE workshop in St. Louis, MO 10 to 19 September 1979. This workshop was followed by a second workshop conducted in St. Louis 11 to 14 December 1979. The first Army National Guard workshop was convened in Little Rock, AR 30 October through 7 November, and a second one is planned in February/March 1980. Noteworthy of these workshops was the intense interest of all participants, especially when some of the floatation gear failed to inflate, perhaps because a lanyard pin had been put in backwards, or the "gram" weight of the inflation bottle had not been weighed on "dial/scale and beam weight equipment."

Relief It Is

A physiological incident recently occurred during a pilot's first indoctrination flight. Briefing was detailed and contained such items as sign-out procedures and the need for relief prior to departure, even though there might not be a biological urge to do so. After preflight and 45 minutes after departing the operations building, the student pilot felt the urge for relief but did not notify the instructor pilot (IP) because he felt it could be delayed until after the mission.

Takeoff, departure and entry into the local area were uneventful. Altitude was not exceedingly high, and no undue "G forces" were encountered. About 15 minutes after takeoff, the student pilot informed the IP he was encountering severe pains in the lower abdomen. The IP declared an emergency and started a descent and a return to home base. During the descent the student pilot deduced the pains most likely were caused by the need for relief. A motion sickness bag was filled and the pains subsided.

The IP flew an uneventful recovery and the student pilot was met by the flight surgeon at the aircraft. Initial diagnosis was of an excessive amount of fluid intake just prior to flight with insufficient bladder capacity. Further examination at the hospital disclosed a high level of blood sugar and further evaluation revealed diabetes mellitus requiring control and cholelithiasis. The abdominal pain was felt to be due to a distended bladder.

Hypoxia

Although at the present time aircraft oxygen systems are not the matter of fact in the Army aviation scenario, they are coming of age and we believe aircrewmembers will benefit from this article. The mission prior to this mishap consisted of touch-and-go's at the auxiliary field, then a climbout to the area for area work. Steep bank and power on stalls were accomplished, then a climb was begun in preparation for abnormal attitude recovery on instruments. At flight level 10,000 feet the student said he "felt funny" and was experiencing hypoxia symptoms.

The IP immediately took control of the aircraft and told the student to put on his oxygen mask. The student put on his oxygen mask and the symptoms subsided. The descent was continued and an uneventful recovery back to home base was accomplished. The aircraft was met by a flight surgeon and the student taken to the base hospital for examination. The student suffered no ill effects but was grounded for the rest of the day as a precaution.

The aircraft's oxygen system and the student's personal equipment were examined and defects were found. The immediate cause of this incident was that the oxygen supply lever was in the off position. The student admitted he had not performed adequate oxygen checks on this mission. With the increased use of oxygen in Army aircraft you should become thoroughly familiar with this equipment.

Light The Way

The ACR/FA-11 (M) crew light has been introduced to the field and is considered as standardized among the services. We have been receiving much interest from the field such as procurement and where we can get it. A national stock number (NSN) has been requested, but as yet has not been assigned. The item, however, is available through the General Services Administration (GSA) or through ACR Electronics by local purchase. (See breakout in the figure on page 41.)

"Jaws"

In a recent aircraft mishap and ejection, the one-man life raft did not inflate. Fortunately, the parachute landing was on "terra firma." Analysis of the life raft showed a 3-inch seam separation. The failure was attributed to the breakdown of adhesive, primarily

Pam Wood
Photo by Tom Greene

due to age; the raft was 8 years old. The service life of the raft is indefinite (not dependent on age). The rafts are replaced when no longer serviceable.

Other factors which possibly contributed to the failure:

- Adhesive may not have been prepared properly.
- Surface where the adhesive was applied may not have been clean.
- The adhesive may not have been applied correctly.

The failure is considered random; the periodic 120-day inspection normally will reveal problems of this nature—provided, or course, that you have a qualified ALSE technician. We should all be sure these inspections are thorough. Note: The new raft of the future will be the LRU-16/P, which is heat sealed. The heat-sealing process will eliminate the problems stated above.

"The Surgeon General Warns That Smoking May Be Hazardous To Your Health." (Reprint by courtesy of U.S. Air Force Life Sciences Division, Norton AFB, CA 92409.)

On final approach, the pilots relaxed a bit: The front cockpit pilot was making the approach, so the rear cockpit pilot decided to "light up." The rear-seater removed his oxygen mask. He had a "hot mike," so he removed and placed his glove into his oxygen mask to keep the noise level down for the front-seater.

And now the plot unfolds: The pilot did *not* turn off his oxygen supply; the pilot *did* light a cigarette; the first puff was relaxing; on the second puff a "flash fire" occurred, burning his mask, glove and right hand. The safety report states that the fire was "self-extinguishing." But what did "self" forget? He forgot Air Force Regulation 60-16; he allowed his gloves to remain smudged with oil. The aircraft recovered with no further problems and the pilots returned to base. The rear-seater received second degree burns to his right thumb, wrist and palm of the right hand. Guess which glove was stuffed into the mask?

High Pressure

With the increased emphasis in ALSE training we are receiving numerous queries on availability of inspection and maintenance support equipment. Where can we get the high pressure dry air vacuum cleaner which the Air Force uses in their ALSE shops? This particular vacuum cleaner is identified as NSN 7910-00-132-5652, unit cost is $261.45. It is a heavy duty high pressure type used for vacuuming air out of life rafts/preservers and can be used for pressure testing. Note: These vacuum cleaners should *never* be used to clean your life support area. Use a separate one for that purpose to keep from contaminating the life rafts/preservers.

Do It Right

A recent 120-day inspection of a civilian type multiplace life raft "tagged" as operational and ready for use in a C-12 aircraft actually was found to be inoperational and unsafe for use. The Army ALSE inspectors, recently trained in U.S. Army, Europe, found that all of the "shut-off" valves were *open* and had a ditching occurred, the life raft would not have inflated. I guess the lesson to be learned here is to be sure that a proper inspection is conducted and you follow the correct manual whether it be a civilian type approved raft or a military raft.

Butane Lighter Refills

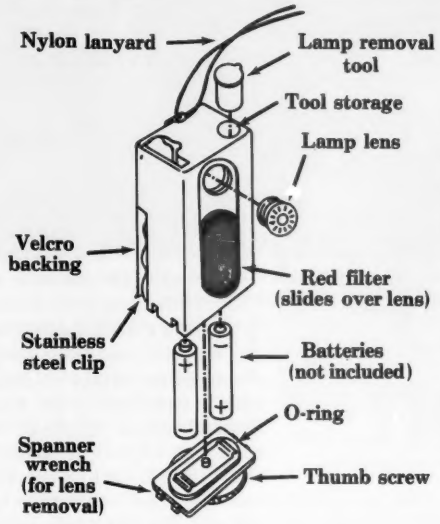
Because of the many questions pertaining to the butane lighter, we feel we should cover it again. A refill kit is available for the butane lighter. It is called "Lifesaver Firestarter A-31" and consists of ISO butane fuel 602, which includes refueling instructions and an adapter refueling nozzle. The refill kit, about $2.00, is a local purchase item and is available from: Lifesaver Products Inc., 6210 Wilshire Blvd, Los Angeles, CA 90048, and is good for about 60 refills. Note: We have received a number of suggestions recommending we adopt a well-known commercial lighter, and on the surface this would look good and be cost effective, but the design can cause a problem at high altitude or in an extremely heated cockpit, such as in the sun. S-o-o-o for the immediate future don't plan to see any of these lighters in your survival kits.

Local ALSE Councils

Headquarters Fifth U.S. Army recently established an informal ALSE Council and each participant agrees to become the "expert" for a specific area of ALSE, i.e., cold weather survival kits, floatation equipment, PRC-90 survival radio and test equipment, etc. This local council was established to develop expertise and facilitate the dissemination of information and resolution of ALSE problems. PEARL recommends each installation consider a similar action to facilitate and expand the development of their ALSE program and to enhance the overall combat operational capabilities of their aircrews. Mr. Al Cargen is point of contact and chairman of the Fifth U.S. Army ALSE Council and has offered to provide information on forming such a local council. He can be reached on AUTOVON 471-3410/5423/4663/3964. His mailing address is: CDR, Fifth U.S. Army, Aviation Safety Office, ATTN: AFKB-TR-A, Ft. Sam Houston, TX 78234.

Sage Green Flyers Coveralls (ALSE), Series NSN 8415-00-491-0898 and 8415-00-043-8380

A single piece flyers coverall is authorized under LIN F32055. The NSN series with the 01 designator identifies the new fire resistant fabric coverall. Subject coveralls are currently in a critical supply position. To assist in alleviating this problem and to ensure that



THE CREW LIGHT

The ACR/Crew Light is powered by two standard AA Alkaline Batteries which are easily replaceable. A lanyard fastened to a Velcro backed stainless steel pocket clip on the back of the flashlight allows convenient methods of portability for the user. Lamp extraction/insertion tool is provided at the top of the unit. A positive action lever switch is located at the top of the unit for easy one hand operation. The bottom cover of the FA-11 Crewlight is designed to serve as a spanner wrench for the removal of the lens. Two small teeth on either end mate with indentations in the lens. All ports and openings are sealed with "O" rings for a watertight enclosure. For other than occasional replacement of the bulb or battery, there is little which is required in maintaining the flashlight. Should the lamp burn out, replace with G.E. type 243 or equivalent. Under cockpit situations it may be desirable to use the red filter over the flashlight lens to avoid excessive brightness when the eyes are accustomed to subdued lighting. The red filter may be slipped over the lens by pushing upward on the filter button with the thumb.

SPECIFICATIONS

Nomenclature:	**Crew Light**	**Lamp:**	**GE Type 243 or equivalent (Min. Screw)**
Model No.:	**ACR/FA-11***	**Intensity:**	**25 Foot Candles at 1 ft. minimum**
Size:	**3 5/8" x 1 5/8" x 1 1/16" 9.21 cm x 4.12 cm x 3.33 cm**	**Beam:**	**Oval Shape, 10" x 5 1/4" at 3-ft. nominal**
Weight:	**4.6 oz. (130 gms) including batteries**	**Case:**	**Durable plastic, International Orange**
Battery:	**Two, Size "AA," 1.5V/Cell Recommended: Alkaline, Mallory MN1500 or equivalent**	**Attachments:**	**Pocket clip, lanyard, Velcro**
		Accessories:	**Lamp Extraction/Insertion tool, spanner wrench for lens removal**

***Model No.: ACR/FA-11(M) Same as above except olive drab color without lanyard.**

the coveralls are provided to initial entry rotary wing students at the Aviation School, Ft. Rucker, AL, procedures below (as coordinated with HQDA) will be implemented immediately:

All outstanding requisitions for flyers coveralls currently on DPSC backorder will be frozen (except for the Aviation School, Ft. Rucker); further requisitioning of the flyers coveralls, except by the Aviation School, is suspended until further notice by the U.S. Army Support Activity, Philadelphia, PA. All requisitions received during the suspension period will be rejected. (It is anticipated this suspension will be lifted during January 1980.)

Note: The two piece Nomex shirt and trouser flyers uniform can be used in the interim. NSNs follow: **Shirts**—8415-00-935-4891; 8415-00-935-4892; 8415-00-935-4894; 8415-00-935-4896; 8415-00-935-4897; 8415-00-935-4900; 8415-00-935-6200; 8415-00-935-6201; 8415-00-935-6202; 8415-00-935-6203.

Trousers—8415-00-935-4878; 8415-00-935-4879; 8415-00-935-4800; 8415-00-935-4881; 8415-00-935-4883; 8415-00-935-4887; 8415-00-935-4890; 8415-00-935-6206; 8415-00-935-6207.

Point of contact is Mrs. G. Lyles, AUTOVON 444-2537.

Pickup of cardiac patient in Cranston, RI parking lot. Location of cars and wind conditions placed tailrotor in bad position for mission pickup. Photo by William K. Dabby

Operation Snow Blow

Captain Alexander M. Lindsay

Troop D 1/26th Cavalry
Rhode Island Army National Guard

Photos supplied by
The Providence Journal-Bulletin

Aviators from Troop D deliver the cardiac patient to RI Hospital during one of the many medevac missions flown in "Operation Snow Blow." Photo by William K. Dabby

LAST YEAR'S EARLY "Halloween blizzard" that devastated the midwest brings to mind the massive winter storm that paralyzed Rhode Island a couple of winters back with 4 feet of snow and drifts exceeding 10 feet. Workers were sent home early as the storm built and soon the state's main commuter highways and major cities' streets became massive parking lots. As one motorist bogged down, others were trapped. By early evening on that first day of the February storm, more than 10,000 motorists were stranded.

The governor quickly declared a state of emergency and activated units of the Rhode Island Army National Guard (RIARNG). The largest Army aviation unit in the state, Troop D 1/26th Cavalry, RIARNG, was activated, when the extent of the state's transportation system failure became apparent. Snow and automobile choked roads severed routes for emergency medical vehicles. Routine medical problems became emergencies, and food delivery and other vital services were interrupted. While four-wheeled drive vehicles and snowmobiles were operating when and where possible, the helicopter became a familiar "workhorse" during storm recovery operations.

By first light on the third day the snow ended, and the first aircraft departed the Troop D assembly site at the former Quonset Point Naval Air Station for a reconnaissance of the state and to search for trapped

motorists. As the radios in Troop D operations crackled with spot reports, it became apparent that the major urban areas of the state had suffered the brunt of the storm's fury and that the interstate highways leading out of these cities (such as Providence, Warwick and Pawtucket) were the hardest hit with cars and trucks snarled for miles.

Flying low over these cities was a new experience for these Army aviators who for years had been told to avoid these populated areas, to fly above 1,500 feet mean sea level, and to minimize blade noise in an effort to be "good neighbors." But as one local TV station noted, "The sound of the chopper blades that morning was the first sign that man was regaining control from nature." The troop's aeroscouts were using their tactical reconnaisance skills over those previously avoided areas of the state, but the "good neighbor" concept was not compromised.

One UH-1 Huey fitted as a rescue ship by the state's Army Aviation Support Facility was placed on 24-hour emergency medevac status. Its missions were numerous, including: child births, burn victims, post-operative complication cases, heart attack and a broken neck. The wide variety of these missions severely tested the flight crews assigned, including the emergency medical technicians who were supplied to the troop by a local special force unit. (Photos 1 and 2.)

Cleared area of interstate closed to traffic was an LZ for this logistical mission. It was typical of the hasty LZs used. "Milk run" photo by Sharon Beals

While emergency medical missions seemed to capture the imagination of the press and provided much satisfaction for the unit, the troop also performed many logistical and transport missions in support of the snow removal effort, which was called "Operation Snow Blow." For nearly 8 days the weather cooperated and troop aircraft moved (35 tons of) medical supplies, food including 25,000 pounds of milk—a mission the pilots dubbed the "ultimate milk run" (photo 3). They also moved various military and civilian officials about the state. As an indication of the wide variety of missions flown, the troop also conducted a two-ship lift of special riot-control trained state police who were inserted into an area to control a civil disturbance.

The uniqueness of the troop's activities during this snow emergency cannot be over-emphasized. Aircraft operated primarily in urban areas, often out of hastily prepared landing zones (LZs) where blowing snow was a constant hazard. One interesting exception was at Brown University in Providence, where

Greeted by a "one-eyed Cyclops" trampled in the snow by Brown University students (upper right), aircraft often transferred their cargo to students on skis, as here, for final delivery. Photo by Thomas D. Stevens

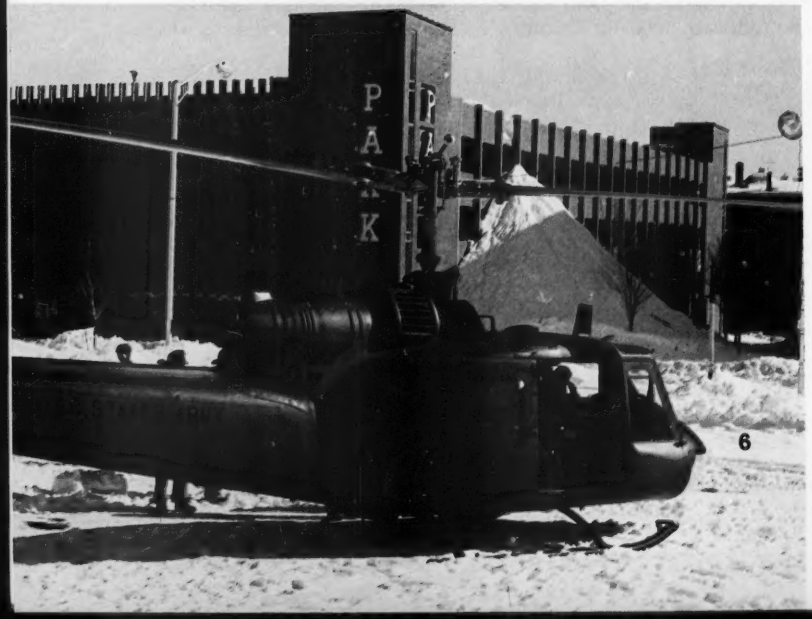
Most approaches were shot into tight urban areas where tall buildings and wires made the small LZs even more demanding. Photo by Michael J. B. Kelly

students trampled a landing zone into being on a windswept athletic field. Food often was transferred from aircraft to students on skis at this and other LZs. (Photo 4).

In contrast to the Brown University LZ, most approaches were shot into tight "downtown" areas where tall buildings and wires made small LZs even more demanding on pilots' skills. Erratic wind patterns caused by buildings had to be considered, and the threat of blowing snow occasionally was replaced by a barrage of snowballs from the hands of idle school children (most pilots could not recall this "threat" from flight training). At night, minimum lighting approaches were the rule in most areas (photos 5 and 6).

The small size of Rhode Island facilitated air mission control. Maintenance of an accurate, up-to-date mission status board in operations and excellent communications helped control aircraft movements and allowed for diversion of aircraft to priority missions. For example, when a standby rescue ship had to abort a mission to carry doctors and an incubator to a mother giving birth to a premature infant, an airborne aircraft was diverted to the hospital for doctors and equipment within minutes. Numerous missions were combined which minimized blade time and reduced maintenance and operating costs.

This crew found a La Salle Square area suitable for LZ. Local firemen, visable behind the fuselage, were deeply involved in rescue operations. Note snow removed from rooftop (upper right). Photo by Lawrence S. Millard



After 8 days of aircaft operations more than 400 accident free aircraft hours were logged by the troop. In excess of 275 missions and 1,000 sorties were flown. About 40 percent of all missions were medical in nature; 46 percent were basic transport and the remaining were logistical.

While the efforts of the unit during this period were overwhelmingly successful, problems were, of course, encountered. Crew fatigue was the most significant problem faced during the activation period. Poor sleeping conditions and irregular work periods were the primary causes of fatigue. Operations scheduled flight crews and accepted mission requests with crew rest periods in mind, but the early days of the operation required a 24-hour effort that taxed the unit's human as well as aviation resources. *When responding to lengthy emergency situations all commands should keep this critical aspect of operations safety firmly in mind.*

While stories about the use of Army aviation assets assisting in recovery from natural disasters are familiar to many of us, the uniqueness of each emergency merits the telling of these operations. There always is something to be learned. The troop's activities following the great New England snow storm of 1978 are such unique events which again show the flexibility of Army aviation.

MONTHLY WRITING AWARD

How To Fight Helicopters — Soviet Style

Captain Carl E. Daschke
Threat Branch
Directorate of Combat Developments
Fort Rucker, AL

SOVIET THINKING concerning helicopter employment, as expressed in Soviet open publications, appears to be continuing in two distinct directions: Combat air assault (airmobile operations) and armed helicopter operations (close air fire support). Soviet interest in U.S. airmobile assault operations was first noted in the Soviet open press during our involvement in Vietnam during the late 1960s.

Very little consideration was given by Soviet planners in adopting our techniques until after our successful employment of the helicopter in Vietnam. However, during the early 1970s an increased interest in armed helicopter operations began to filter through various open source Soviet publications. It then became obvious that U.S. helicopter tactics, doctrine and equipment had captured the imagination of many Soviet military planners.

A fine example is Colonel M. Belov, Professor and Doctor of Military Sciences, who has authored numerous articles evaluating and tracing our helicopter evolution from Vietnam to our present systems. As a result of his published efforts, Colonel Belov has educated the Soviet military and party officers concerning U.S. helicopter oganizations, employment, equipment and armament.

Although one must consider, when reviewing Soviet open publications, the Soviet's extensive use of *"disinformation"*—a practice of telling you what they want you to believe, regardless of its validity—their articles tend to provide some insight concerning current thought.

Colonel Belov's most recent article "How To Fight Helicopters" appeared in the September issue of the Soviet *Military Review*. In his article, Colonel Belov establishes some interesting views and concepts concerning his perception of our helicopter employment as well as proposing various ways of countering the threat that Army tactical aviators pose to the Soviet forces. He discloses that the growth of the helicopter's tactical potential, which for the Soviets grew out of the 1973 Mideast War, is becoming recognized within Soviet military circles.

The fact that the armed helicopter is an effective antitank system was evidenced by several recent Soviet exercises where the attack helicopter (he unfortu-

nately did not identify what type) was employed in an antitank role. According to the umpires of those exercises, helicopter losses were consistently several times fewer than tank losses. Colonel Belov gives as an example that during a 4-day exercise, the "Orange" forces destroyed 200 tanks, 6 fire support helicopters (Cobras), 2 tactical fighters, several multipurpose (utility) and reconnaissance helicopters, and a large number of automobiles of the "Blue" forces while the "Orange" forces lost only four helicopters. This score, although somewhat distorted I am sure you will agree, shows a rather favorable helicopter versus combat system trade-off. Colonel Belov continues in his evaluation by explaining that the remarkable "kills" enjoyed by the attack helicopters were a direct result of the aircraft's superior "observation, maneuverability and choice of time and place of delivering a (fatal) blow."

Although Colonel Belov failed to disclose the types and numbers of helicopters employed, the end result is easily understood—they acknowledge the helicopter's tactical potential.

In recognition of the threat that our helicopters represent to Soviet combat formations, he expresses the need for an increase in helicopter acquisition systems assigned to the tactical levels that are capable of detecting low flying attacking aircraft. This increased acquisition capability would be integrated with "combat-ready antiaircraft weapons specially detailed to fight (the) unexpectedly appearing enemy helicopters." To accomplish this, "much attention is now being paid to developing AA (antiaircraft) guided missile systems (to be) mounted on tanks, infantry fighting vehicles and armored cars, with sufficient survivability and mobility to ensure constant air protection of the troops."

Additionally, Colonel Belov states that, "Certain armies (Warsaw Pact presumably) are carrying out experiments in the use of antitank projectiles (designed) for helicopter fighting and attempting to create a combined system of a short-range missile weapon which could be used to (Orange) advantage in fighting both ground fighting vehicles and low flying airplanes and helicopters." In a further effect to combat our helicopters, Colonel Belov suggests in his article that artillery can be employed in forward arming and refueling points as well as known laager areas. In addition to artillery fires, "During landing approaches and after landing, helicopters can be destroyed by direct fire of all weapons available (to include) flame throwing and incendiary weapons . . . ." Thus, the author confirms that virtually all combat weapons organic to the unit can be employed against the helicopter. But he concedes that "final solution of the problem (destruction of the threat), is far from drawing near (and) is further delayed due to constant improvement of the helicopter's combat characteristics and methods of use."

In an effort to field a more reliable weapon designed to specifically counter the helicopter threat, Colonel Belov suggests that the helicopter might be employed. "Just as tanks have always been the most effective weapon against tanks, helicopters are (considered) the most effective means of fighting helicopters." When considering the evolution of the Soviet's Mi-24 HIND-D, the colonel may not be "off-track." This is further evidenced by the fact that with the proliferation of helicopters (both theirs and ours), clashes between helicopters will be virtually inevitable.

Again, we find that the Soviets are fielding helicopters which are armed with weapons that could be employed in an air-to-air role.

Presently, in regard to Soviet combat helicopter development, there exist, within the Soviet military, two distinct viewpoints concerning the evolution of future combat helicopters. According to Colonel Belov, one faction "favors the creation of a general purpose vehicle, i.e., an assault helicopter capable of providing fire support for units and subunits." Quite possibly the author is alluding to the HIND and, in a more limited capacity, to the MI-8 HIP-E. The second faction supports the development of aircraft with a more singular combat mission, i.e., "assault helicopters for support of units of land forces and (the) destruction of different ground targets; antitank helicopters specially intended to destroy tanks and other armored vehicles; fighter helicopters for destroying enemy combat helicopters and other aerial targets."

According to those planners who support the second point of view, specialization in combat helicopters will be required on the future battlefield because of the tendency of multipurpose weapons to lose at least some effectiveness, when employed in a specialized role.

An interesting point is the perceived need, by some planners, for an antihelicopter helicopter. A helicopter of this type, according to the article, would require an aircraft that is "light, high speed and very maneuverable, armed with cannon and air-to-air guided missiles."

This is a rather significant departure from past Soviet helicopters—although the HIND is not grossly larger than our attack helicopter—it most certainly will not meet the requirements of "light and very maneuverable."

Colonel Belov contends that the most suitable weapons to be used against another helicopter are antitank guided missiles, a 20 or 30 millimeter cannon and unguided antitank missiles. He further claims that, "The cannon is preferred to other weapons for it allows fire both at ground and air targets." Realizing

Illustration courtesy of General Dynamics

the inherent limitations of a cannon when employed against high performance aircraft, "certain armies (again Warsaw Pact) are working on versions of air-to-air guided missiles to be installed on combat helicopters."

In comparing the mission profiles established in the article with how we conceptualize the majority of the air-to-air encounters occurring, we find that we are somewhat in agreement. Combat between helicopters most likely will take place while they are performing other tactical missions (chance encounters), i.e., combat assault to destroy communications and logistics facilities, etc.

If the antihelicopter aircraft were to be employed against a specific interdiction mission, Colonel Belov envisions the helicopters will operate, "from ambushes by waiting under cover for an enemy air raid in order to take off and make surprise missile launchings . . . such tactics will probably be used more in the defense, . . . while offensive operations will call for more resolute and active actions."

Although the problem of countering the helicopter threat, on either side, is far from being answered, it is interesting to catch at least a glimpse of how some members of the Soviet military perceive the threat posed by U.S. helicopters and how they propose to counter our actions.

In closing, Colonel Belov points out that, "Helicopter combats are becoming a component of the modern combined arms battle which may be fought either in cooperation with land forces or individually by helicopter subunits or individual helicopters."

Questions or comments concerning this article should be directed to: CPT C. E. Daschke, Threat Branch, Directorate of Combat Developments, ATTN: ATZQ-D-CT, Ft. Rucker, AL 36362, or AUTOVON 558-4709/5671.

ATC ACTION LINE

UNITED STATES ARMY COMMUNICATIONS COMMAND

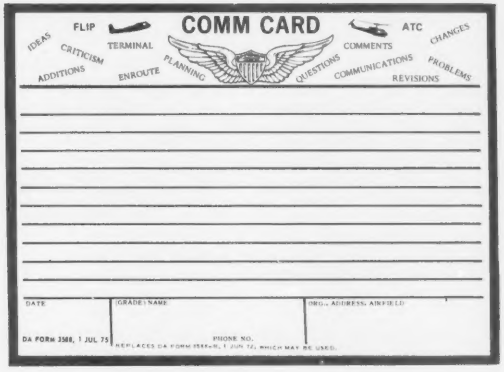
Flip Notes

EVERY NOW AND then aviators somehow find a way to build a new "Murphy." We keep selling the need for everyone to check flight information sources and report errors to us for correction. Most of you are doing an excellent job, but it's time to go one step further.

For example, we sometimes receive COMM Cards from different folks at the same location saying different things about the same problem. Many calls later we find which is correct and initiate a publication change. The phrase "we're all in the same Army" may often be narrowed down to "we're all at the same airfield." The small end of the information funnel at a particular location probably should be the operations officer who can investigate, validate and correct as necessary—or even explain why something is the way it is. Remember, the airfield commander is responsible for all that goes on, in, around and over that airpatch. The commander's central agent for correct information and verification usually is the operations officer or other designee whom everyone knows. Talk first, then send us that COMM Card.

In another area, those of you responsible for obtaining any of the FLIP or related products that are requested through USAATCA-ASO are hopefully keeping a close eye on the arrival date and the quantity of these publications. There are reasons why there may be errors (transportation, distribution, computer or human), but none of these helps the aviator in the cockpit who needs the publications. When products, especially time critical ones, have not arrived 2 to 3 days prior to their effective date, a local check should be made with mail rooms, transportation, etc. If that doesn't solve the problem, call Ms Miley or MSG Willoughby on AUTOVON 284-7773 or commercial (202) 274-7773 for assistance in locating the missing documents. If necessary, they will request a reshipment from the contractor through the Defense Mapping Agency. However, this system won't work if you don't keep track of what you are supposed to receive and when it should arrive.

These cards are available at your unit operations. Make yourself a helping part of the system. The cards are self-addressed, go around all channels and get direct action.



Readers are encouraged to address matters concerning air traffic control to:

Director
USAATCA Aeronautical Services Office
Cameron Station
Alexandria, VA 22314

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Army's LT Hayes 1st Black Woman Military Aviator In U. S. Forces

Left: As part of the preflight check, 2LT Marcella A. Hayes inspects the stabilizer bar on a UH-1 Huey helicopter at Lowe Army Airfield, Ft. Rucker, AL. Below: Lieutenant Hayes and her instructor pilot, Robert Stamper, walk to the flight simulator building (U.S. Army photos by PFC Denise Starr)

SP4 Robin Drew
Public Affairs Office
U.S. Army Aviation Center
Fort Rucker, AL

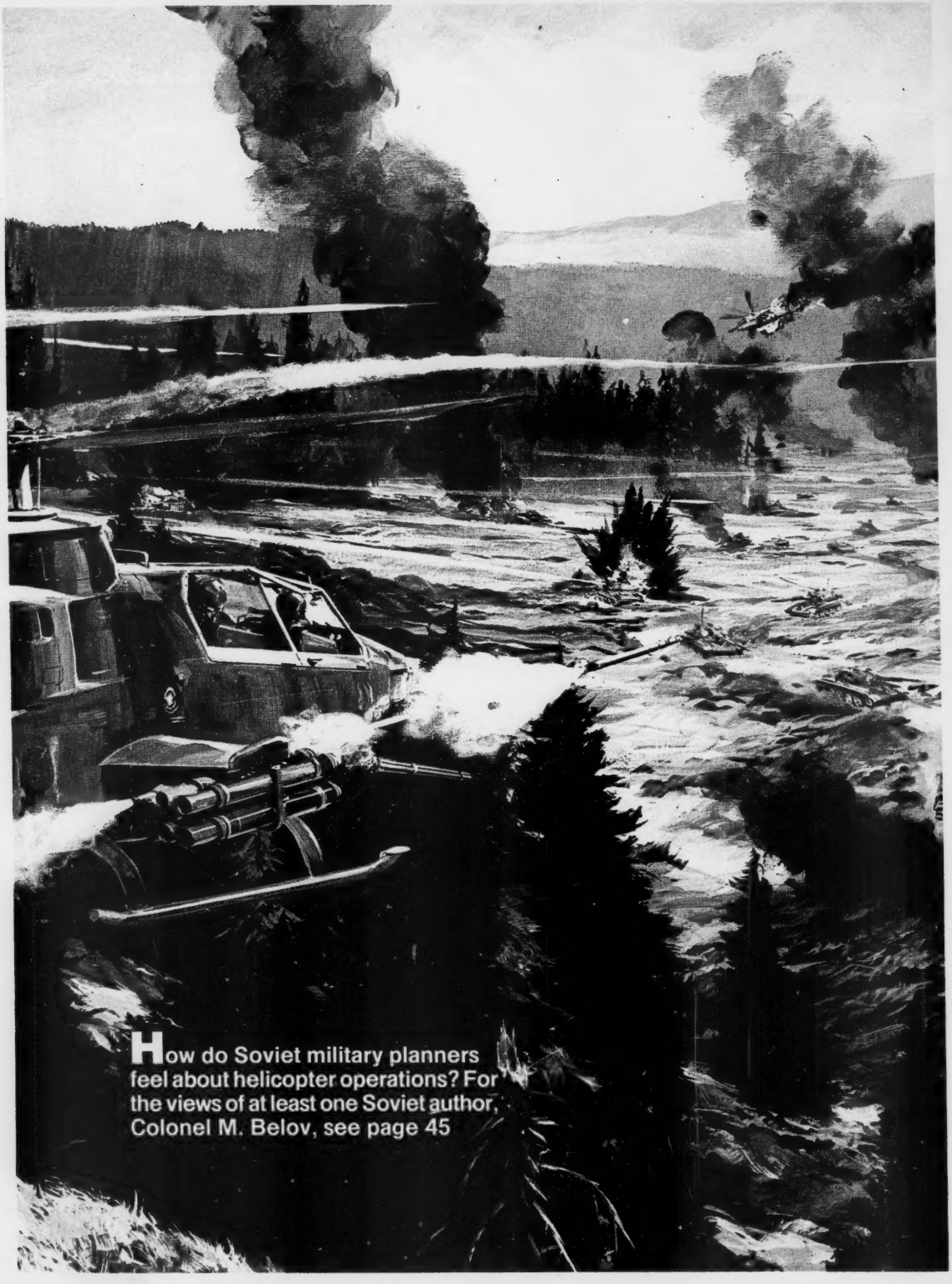
SECOND LIEUTENANT Marcella A. Hayes became the first black woman to receive aviator wings in the U.S. Armed Forces on 27 November 1979 when she completed Army helicopter flight training at the U.S. Army Aviation Center, Ft. Rucker, AL. She also became the 55th woman to be graduated by the Aviation School.

A gleam comes into Lieutenant Hayes' eyes when she talks about his first solo. She said, "There's nothing like it. I wanted to cry out, 'Look mom, I'm flying and all by myself.' But rather than do that, I just suppressed it."

Lieutenant Hayes was graduated in 1978 from the University of Wisconsin with a BA degree in English. She also received her commission through the Army's Reserve Officer Training Corps (ROTC) at Wisconsin. She entered the Army in December 1978, attended the Transportation Officers' Basic Course at Ft. Eustis, VA, and arrived at Ft. Rucker on 22 March 1979 to attend flight school. Not only has she successfully completed the Transportation School's basic course, she also has attended a 3-week airborne training course at the Infantry Center, Ft. Benning, GA—making five qualification parachute jumps at 1,250 feet to earn her paratrooper badge.

Now that Lieutenant Hayes has taken the first step, more black women are expected to take the initiative to get into the flight program. Other black Army aviators said, "The only holdback the women have had has been the fear of failure. But anyone who can pass the FAST test and the flight physical has the same opportunity as anyone else to earn their wings. You have to remember that you are not expected to know how to fly. The Army's Aviation School will teach you that. All you have to do is meet the requirements."

Lieutenant Hayes's new assignment will be at Ft. Campbell, KY, where she most likely will be assigned to an aviation maintenance branch. But she also confesses to another goal she has set. She wants to go back to the ROTC at Wisconsin and talk to the people there about flying. But only after she has enough flying time.



How do Soviet military planners feel about helicopter operations? For the views of at least one Soviet author, Colonel M. Belov, see page 45